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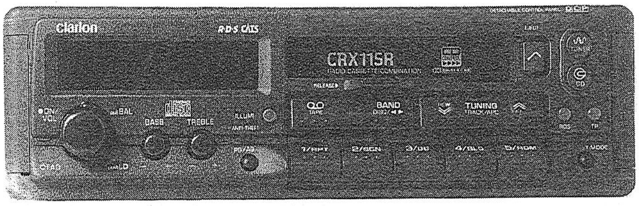
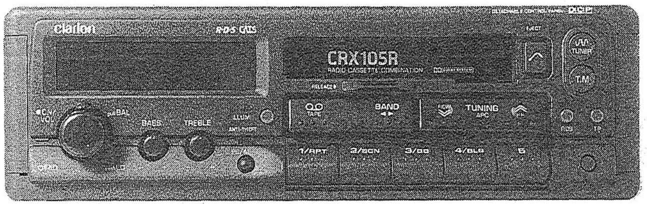
Service Dept.—50 Kamitoda, Toda-shi, Saitama, 335 Japan Tel: 048-443-1111 Telex: J2962628 CLAFAC-J

clarion Service Manual

Published by Service Engineering Section



CRX115R



CRX105R

RDS/FM•MPX/MW/LW RADIO CASSETTE COMBINATION WITH CD CHANGER CONTROL

Model CRX115R
(PE-9436C)

Model CRX105R
(PE-9437C)

	CRX115R	CRX105R
Dolby	B/C	B
CD Changer Control	○	×
CD/DAT Input Terminal	○	×

■SPECIFICATIONS:

Radio section
Circuit system: Superheterodyne
Tuning system: Electronic tuning
Receiving frequency: LW 153kHz to 281kHz
MW 531kHz to 1,602kHz
UKW(FM) 87.5MHz to 108MHz
Intermediate frequency:
LW, MW 450kHz
UKW(FM) 10.7MHz

Tape section
Reproduction system:
Auto reversing
4 track, 2 channel stereo cassette tape playback
(Monaural also capable)
Tape speed: 4.76cm/sec. (1-7/8 ips)

Composite
Load impedance: 4Ω×4
Power output: 15W×4
Power supply voltage:
DC 14.0V
(10.8V to 15.6V)
Negative ground
Power consumption: Less than 10A
(at max. output)
Dimensions: Width 178mm
Height 50mm
Depth 160mm
Weight: 1.7kg

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
- "DOLBY" and the double-D symbol ▯▯ are trademarks of Dolby Laboratories Licensing Corporation.

■COMPONENTS:

●**CRX115R (PE-9436C-B)/**
CRX105R (PE-9437C-B)

Main unit		1
Mounting bracket	300-6954-00	1
Mounting bracket	300-9035-01	1
Extension lead	854-1877-00	1
Parts bag	921-8601-01	1
{ Removal tool	341-1387-01	2
Parts bag	921-8735-01	1
{ Spacer	345-3653-01	1
Tap screw	700-5016-80	1
Screw	716-0726-01	1
Nut	722-0314-00	1
Plate nut	725-0216-00	1
Parts bag	921-8803-01	1
{ Sticker	291-0051-00	1
DCP case	346-0071-00	1
Parts bag	921-9061-00	1
{ Outlet socket	074-0919-00	1
A-lead	850-2600-00	1

■FEATURES:

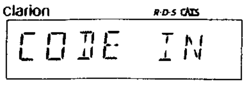
- RDS (Radio Data System): PI (Programme Identification), AF (Alternative Frequency), TP (Traffic Programme Identification), TA (Traffic Announcement), PS (Programme Service name), REG (Regional Selection)
- One-touch Memory (10 FM, 5 MW/LW)
- Tuning Modes: Manual Tuning and Station Seek
- Preset Scan (PS) & Auto Store (AS) on FM/MW/LW
- Full Logic Control Operation
- Key-Off Pinch Roller Release
- Dual Azimuth Adjustment Mechanism
- Automatic 70 μsec. Tape Equalization Selector (MTL)
- APC (Automatic Programme Control)
- Blank Skip & Repeat
- Dolby" B/C Noise Reduction
- Loudness Switch
- Maximum Power Output: 15 W×4
- 4-Channel Line-Out
- CD/DAT Input Terminal
- CD Changer Control
- Night Illumination with Illumination Colour Selector
- Detachable Control Panel

■CATS III (Computer Anti-Theft System III):

Operation

[1] Entering the CATS Code

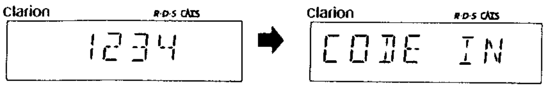
1. Turn the power off by turning the ON/VOL knob ① fully counter-clockwise.
2. Press the TUNER switch ⑭, and while keeping it pressed, turn the ON/VOL knob ① clockwise to turn on the power.


Clarion
RDS CATS
CODE IN

Digital Display

"CODE IN" starts blinking on the display.

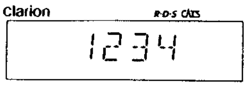
3. Input an arbitrary 4-digit number using the Preset buttons (1 to 5) ⑲.


Clarion
RDS CATS
1234
Clarion
RDS CATS
CODE IN

(Example) Input 1-2-3-4

"CODE IN" starts blinking again.

4. Input the same four digits again.


Clarion
RDS CATS
1234

(Example) Input 1-2-3-4

The CATS code input is completed. Now the unit will operate normally.

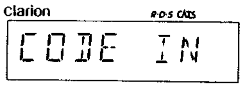
When the second input of the CATS code has been correctly done, the CATS code is registered. After "CATS ON" has been displayed, the power to the unit will be switched on.

Notes:

1. Do not forget your CATS code. In the event that you lose your CATS Card and forget your CATS code, your dealer can send the unit to the factory to have the CATS code erased; but only if you can prove you are the rightful owner of the unit.
2. In case you have input a wrong 4-digit number in step 3:
   If, for example you input 2-2-3-4 instead of 1-2-3-4, input any 4-digit number other than 2-2-3-4 in step 4. The unit will then return to the condition in step 2, where the "CODE IN" blinks on the display. Continue by keying in the correct CATS code.
3. If the input numbers in steps 3 and 4 do not match:
   If you input, for example, 1-2-3-4 in step 3 and then 2-2-3-4 in step 4, the unit will return to its original condition. Continue with steps 3 and 4.
4. In case you realise your mistake before entering all 4 digits in step 3 or 4, enter any digits to complete the entry. Then proceed as explained in notes 2 or 3 above.
   Proceed in the same way to correct input mistakes made during [2] Releasing CATS or [3] Erasing or Changing the CATS Code.

[2] Releasing CATS (when you have removed the car stereo or sent the car for servicing)

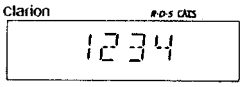
1. Turn the power on by turning the ON/VOL knob ① clockwise.


Clarion
RDS CATS
CODE IN

Digital Display

"CODE IN" starts blinking on the display.

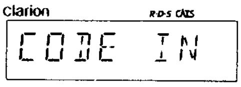
2. Input your CATS code.


Clarion
RDS CATS
1234

(Example) Input 1-2-3-4

[3] Erasing and Changing the CATS Code

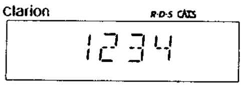
1. Turn the power off by turning the ON/VOL knob ① fully counter-clockwise.
2. Press the TUNER switch ⑭, and while keeping it down, turn the ON/VOL knob ① clockwise to turn on the power.


Clarion
RDS CATS
CODE IN

Digital Display

"CODE IN" starts blinking on the display.

3. Input your CATS code.


Clarion
RDS CATS
1234

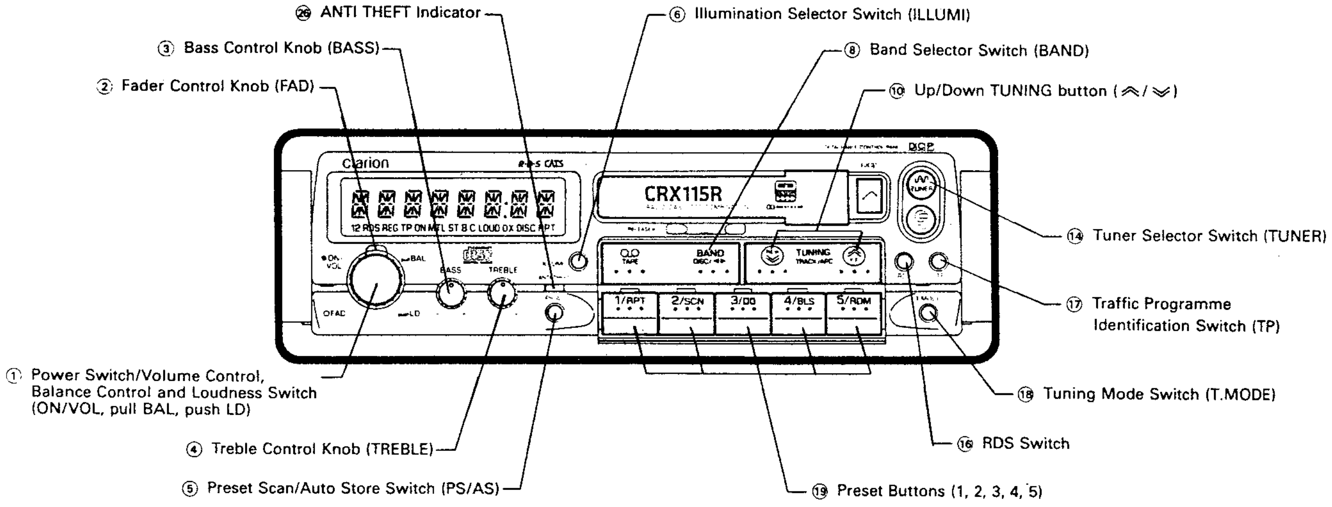
The CATS code has now been erased, and the unit will operate normally.
To input a new CATS code, follow the steps in [1] Entering the CATS Code.

When the erasure of the CATS code has been completed, "CODE CLR" will be displayed. After this the power to the unit will be switched on.

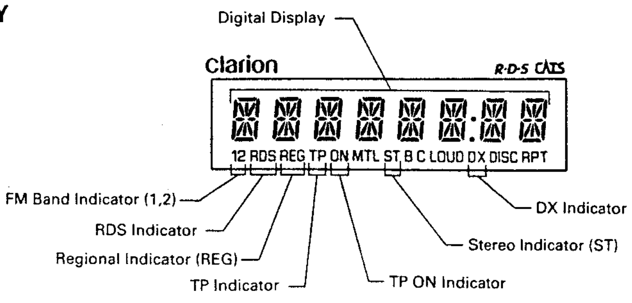
Note: In case you input a wrong CATS code in step 3, the unit will return to the condition after step 1, so continue with steps 2 and 3.

■OPERATION:

Listening to the Radio


㉖ ANTI THEFT Indicator
③ Bass Control Knob (BASS)
② Fader Control Knob (FAD)
⑥ Illumination Selector Switch (ILLUMI)
⑧ Band Selector Switch (BAND)
⑩ Up/Down TUNING button (≪/≫)
Clarion
RDS CATS
CRX115R
BAND
TUNING
BAL
BASS
TREBLE
1/RPT
2/SCN
3/DD
4/BLS
5/RDM
⑭ Tuner Selector Switch (TUNER)
⑰ Traffic Programme Identification Switch (TP)
⑱ Tuning Mode Switch (T.MODE)
⑯ RDS Switch
⑲ Preset Buttons (1, 2, 3, 4, 5)
① Power Switch/Volume Control, Balance Control and Loudness Switch (ON/VOL, pull BAL, push LD)
④ Treble Control Knob (TREBLE)
⑤ Preset Scan/Auto Store Switch (PS/AS)

■TUNER MODE DISPLAY


Digital Display
Clarion
RDS CATS
12 RDS REG TP ON MTL ST B C LOUD DX DISC RPT
FM Band Indicator (1,2)
RDS Indicator
Regional Indicator (REG)
TP Indicator
TP ON Indicator
Stereo Indicator (ST)
DX Indicator

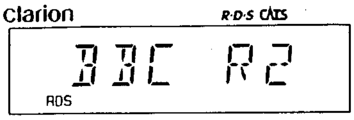
■ Using the Radio Data System (RDS)

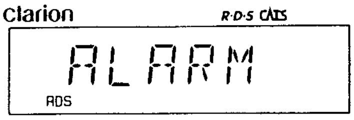
＊ RDS Switch ☛ ⑯

- This switch is off when the unit is turned on for the first time.
- RDS only works on the FM band.
- When the RDS switch is switched on, "RDS" is displayed.

1. When an RDS broadcast station is received, the name of the received station will be displayed (PS: Programme Service name).
2. If the receiving conditions worsen while receiving an RDS broadcast, the unit will automatically switch to another frequency on which the same broadcast is available under better receiving conditions.
3. When an emergency broadcast, in which a PTY (Programme-Type code) alarm code is transmitted, is received during the reception of an RDS broadcast, "ALARM" will be displayed and the volume level will be increased and the broadcast message is heard.

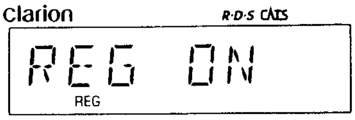
   Notes:
   1. Even when listening to a tape or CD, the unit will switch to the radio and the emergency broadcast can be listened to. At this time the radio operation buttons cannot be used.
   2. By switching off the RDS switch during the emergency broadcast, the set will return to the tape or CD operation mode.

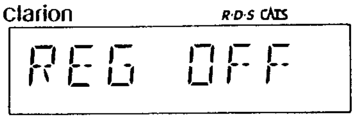




4. When the receiving conditions worsen while receiving an RDS broadcast and there is no stronger broadcast station transmitting the same broadcast, "RDS" will start flashing in a little while.
   When the receiving conditions improve, the flashing of "RDS" will stop.
5. When the right side (⩓) or the left side (⩔) of the TUNING button ⑩ is pressed while the RDS switch is on, the unit will only search for stations broadcasting RDS signals.
6. Preset Scan during RDS reception:
   Pressing the PS/AS switch ⑤ for less than two seconds when the RDS switch is switched on, only preset stations broadcasting the RDS signal will be tuned in.
   Auto Store during RDS reception:
   Pressing the PS/AS switch ⑤ for more than two seconds when the RDS switch is switched on, only RDS stations with different content will be stored on the Preset buttons ⑲.

- **Same Programme Search (PI: Programme Identification)**
  If you press a Preset button ⑲ on which an RDS station is stored and the station cannot be received (RDS indicator flashes), press the same Preset button ⑲ one more time ("SEARCH" is shown in the display). The set will search for stations at other frequencies with the same programme content, i.e. the same PI code, as the station stored in memory. Thus, a desired programme can easily be tuned in although the broadcasting frequency is unknown.
- **REG (Regional) Switching**
  1. Pressing the RDS switch ⑯ for 2 seconds or longer permits on/off switching of the Regional mode. The initial setting is the on state in which the "REG" indicator is lit.
     "REG ON" is displayed at the time the Regional mode is engaged, and "REG OFF" is displayed at the time the mode is disengaged.



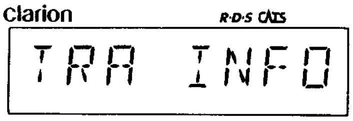


  2. When the Regional mode is engaged (REG indicator lit), only the same station is automatically tracked.
     When the Regional mode is off, the local programme is tracked and you can continue to listen to a programme being switched from one station to another without any interruption.
     Example: If a soccer match is being broadcast on BBC 1 and is switched to BBC 2 when the Regional mode is engaged, the unit will track this switch and go to the new station, BBC 2, when the switch is made.

Note:
- REG only works on the FM band.

＊ Traffic Programme Switch (TP) ☛ ⑰

1. The TP switch is off when the unit is turned on for the first time.
2. When the TP switch is switched on, "ON" is displayed.
   When a TP station is received, the TP indicator lights. This indicates that the station is broadcasting the RDS TP code or the SK signal in case of ARI broadcast.
   When the TP switch is on and a station broadcasting traffic announcements is tuned in, the TP ON indicators are lit.
   "TRA INFO" is displayed when a traffic information announcement is broadcast. The volume will increase to the preset level and you will hear the the traffic announcement.

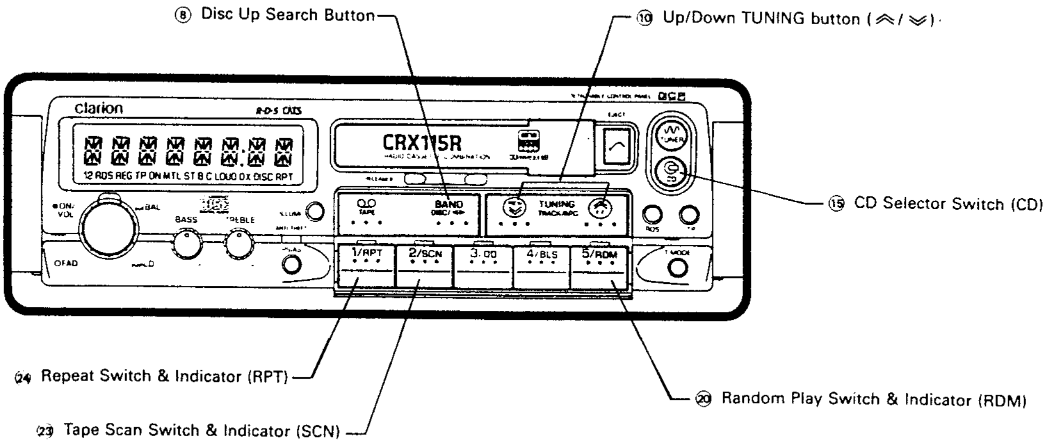


   Notes:
   1. Even when listening to a tape or CD, the unit will switch to the radio and the traffic information announcement can be listened to.
      At this time the radio operation buttons cannot be used.
   2. Switching off the TP switch during the traffic information announcement, the unit will return to the tape or CD operation mode.
3. When the right side (⩓) or the left side (⩔) of the TUNING button ⑩ is pressed while the TP switch is on, the unit will only search for stations broadcasting the TP signal.

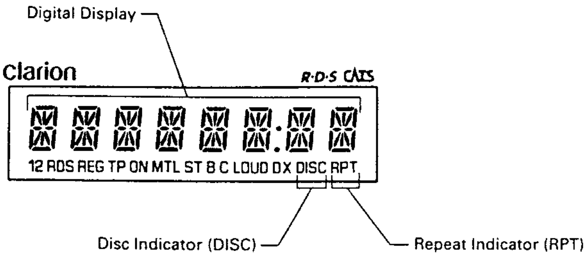
   Note:
   When this button is pressed in areas where traffic information is not broadcast, the seek operation is not cancelled and so the TP switch should be switched off to stop seek tuning.
4. Preset Scan when the TP switch is on:
   Pressing the PS/AS switch ⑤ for less than two seconds when the TP switch is switched on, only preset stations broadcasting the TP signal will be tuned in.
   Auto Store when the TP switch is on:
   Pressing the PS/AS switch ⑤ for more than two seconds when the TP switch is switched on, only stations broadcasting traffic information announcements will be stored on the Preset buttons ⑲.

   Note:
   The TP switch only works on the FM band.
5. In the tape mode or the CD mode when the TP indicator is lit, switching on the RDS switch ⑯ will provide continuous, automatic tracking of the TP station.

CD Changer Control


⑧ Disc Up Search Button
⑩ Up/Down TUNING button (⩓/⩔)
⑮ CD Selector Switch (CD)
㉔ Repeat Switch & Indicator (RPT)
㉓ Tape Scan Switch & Indicator (SCN)
⑳ Random Play Switch & Indicator (RDM)
Clarion
CRX115R
BAND
TUNING
1/RPT
2/SCN
3 DD
4/BLS
5/RDM

■ DISPLAY



*** CD Selector Switch (CD) ☞ ⑮**
This switch is used to switch from the tuner, cassette deck, or an external accessory component to the CD Changer mode. CD playback starts when this switch is pressed from the Tuner or Cassette mode.
When the CD Selector Switch ⑮ is pressed, "CD LOAD" is displayed, the power to the CD Changer is switched on, and playback starts from the first track on the first disc. (First time only)
If no magazine has been set in the CD Changer, "NO MAGAZ" will be displayed.

When the CD Selector Switch ⑮ is pressed, the display will first show "CD LOAD", then the disc number, and upon that the track number. During actual disc play, both the track and the played time will be displayed.
Refer to the figure on the right for the display messages:

		Display System
①	**CD selection**	CD LOAD
②	**DISC display**	Disc No. 88 DISC
③	**TRACK display**	TRACK No. 88 TRACK
④	**During play**	TRACK No. P-TIME 88 88:88
	Random play	RANDOM
	No magazine	NO MAGAZ
	No such disc	NO DISC

■ Last Position Memory Function
This function stores in memory the track that was being played when the power was switched off while a CD was playing or when another mode was selected. The next time playback on the CD Changer is started, play will begin from the beginning of the last track played.

*** Disc UP Search Button ☞ ⑧**
This button is used when you wish to listen to a different CD.
Pressing the Disc UP button ⑧, the CD Changer will set the next higher disc, the disc number will be displayed, and playback continues from the selected disc.
With each subsequent press of the button, the disc number will change and the disc corresponding to the number displayed on the digital display at that time will be played.
If there is no disc in the place corresponding to the displayed number, "NO DISC" will be displayed on the digital display and the player will automatically change to the next disc and play it.

■ Track Search ☞ ⑩
Press the right side of the TRACK button (⩓) to start playback from the next track. Press the left side of the TRACK button (⩔) to return to the beginning of the track currently being listened to and continue play from there.
To move ahead or back several tracks at once, press either side of the TRACK button repeatedly.

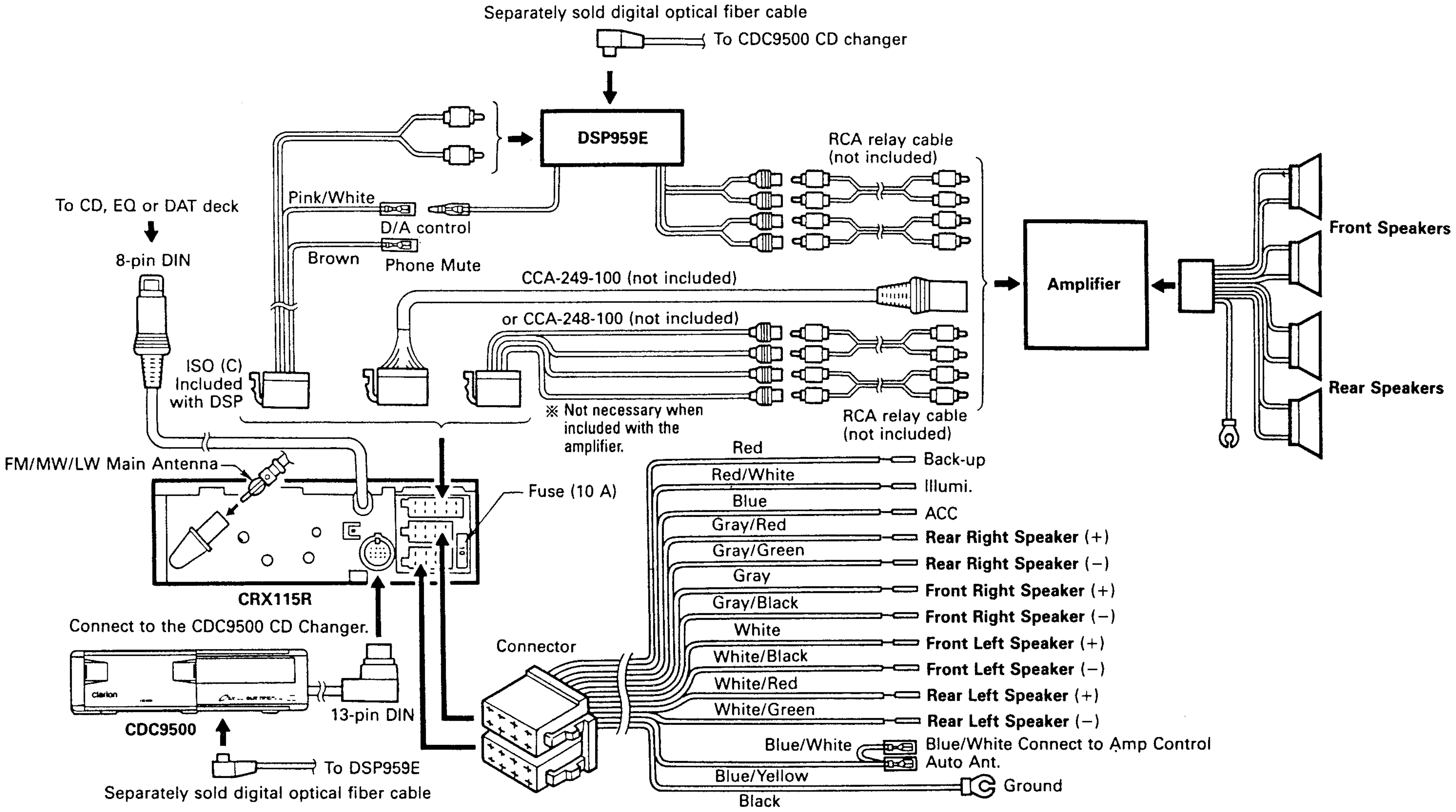
■ Fast Forward/Fast Return ☞ ⑩
Keeping the right side of the TRACK button (⩓) pressed, high-speed playback in the forward direction is engaged.
Keeping the left side of the TRACK button (⩔) pressed, high-speed playback in the reverse direction is engaged.
Release the button to stop high-speed playback and resume normal playback.

*** Repeat Switch (RPT) ☞ ㉔**
Press the RPT switch once to repeatedly play back the current selection. The RPT indicator will light.
Press the RPT switch once more for repeat playback of the current DISC. The DISC and RPT indicators will light.
Press the RPT switch a third time to disengage repeat playback, and confirm that the DISC and RPT indicators go off.

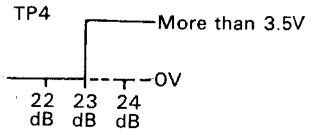
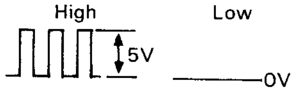
*** Scan Switch (SCN) ☞ ㉓**
Pressing the SCN switch causes the indicator at the top of the switch to light and the CD Changer to play the first 10 seconds of each track on the loaded CDs.
When the track you are searching for is played, press the SCN switch again to continue playback of that track. At the same time the indicator will go off.

*** Random Play Switch (RDM) ☞ ⑳**
Pressing the RDM switch causes the indicator at the top of the switch to light, "RANDOM" is displayed, and random play of all tracks on the selected disc begins.
When all of the tracks on the disc have been played once, the next disc is selected and random playback of that disc continues.
When there are no more discs left in the magazine, random playback will start anew from the first disc in the magazine.
To cancel random playback, press the RDM switch once more and make sure "RANDOM" disappears from the display.

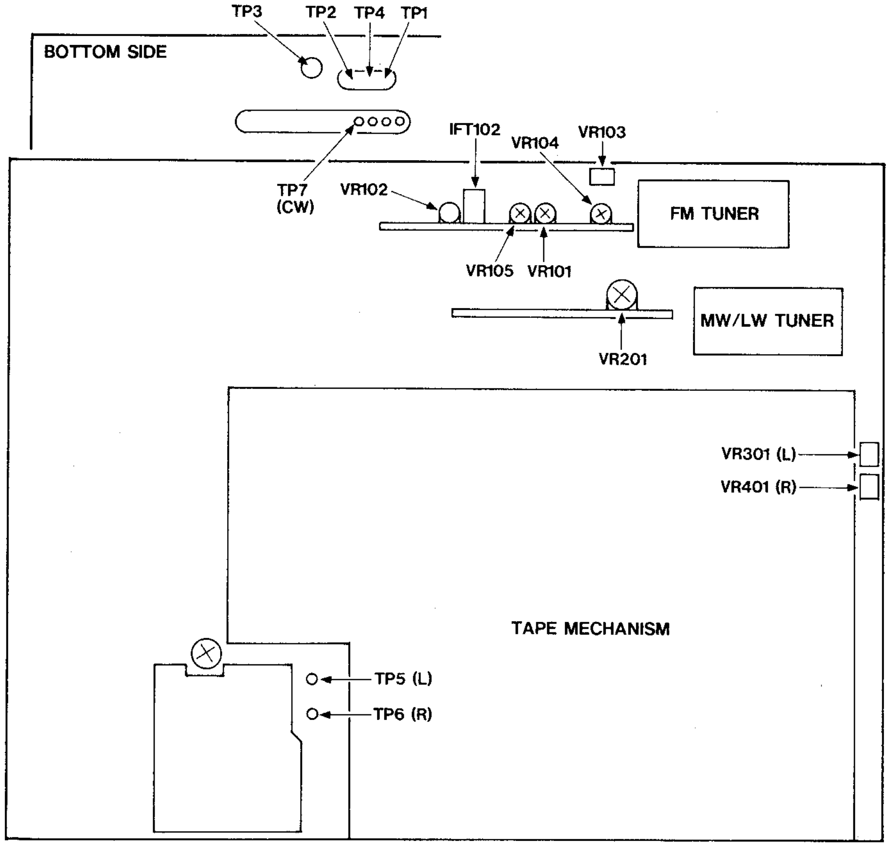
■WIRE CONNECTION:


Separately sold digital optical fiber cable
To CDC9500 CD changer
DSP959E
RCA relay cable (not included)
To CD, EQ or DAT deck
8-pin DIN
Pink/White
D/A control
Brown
Phone Mute
CCA-249-100 (not included)
or CCA-248-100 (not included)
Amplifier
Front Speakers
Rear Speakers
ISO (C) Included with DSP
※ Not necessary when included with the amplifier.
RCA relay cable (not included)
FM/MW/LW Main Antenna
Fuse (10 A)
CRX115R
Connect to the CDC9500 CD Changer.
13-pin DIN
CDC9500
To DSP959E
Separately sold digital optical fiber cable
Connector
Red
Back-up
Red/White
Illumi.
Blue
ACC
Gray/Red
Rear Right Speaker (+)
Gray/Green
Rear Right Speaker (−)
Gray
Front Right Speaker (+)
Gray/Black
Front Right Speaker (−)
White
Front Left Speaker (+)
White/Black
Front Left Speaker (−)
White/Red
Rear Left Speaker (+)
White/Green
Rear Left Speaker (−)
Blue/White
Blue/White Connect to Amp Control
Auto Ant.
Blue/Yellow
Ground
Black

■ADJUSTMENT:

Adjustment item	Adjustment point	Procedure
0V	IFT102	1. Connect the digital voltmeter to TP1 and TP2. 2. Input the 98.1MHz/55dB signal and adjust the reading of digital voltmeter to 0±30mV by IFT102.
Limiter	VR104	1. Input the 98.1MHz, 55dB SSG signal. (400Hz MOD) 2. Adjust VR to make the set output 0dB (2.45V). 3. Reduce the output of SG 10dB. 4. Adjust VR104 untill output level decrease to −3dB.
SD	VR105	1. Input the 98.1MHz/23dB signal (400Hz MOD). 2. Adjust VR105 so that the voltage of TP4 is in the range 0V to 3.5V.  TP4 More than 3.5V 0V 22 dB 23 dB 24 dB
S-meter	VR103	1. Connect the digital voltmeter to TP3. 2. Input the 98.1MHz frequency at 65dB (400Hz MOD) and adjust the level to 4.5V±0.1V by VR103.
SASC	VR101	1. Input the 98.1MHz/65dB, 7kHz modulation frequency, 30% modulation degree SSG signal. 2. Adjust the output level of the volume controller to 0dBm (2.45V). 3. Set the SSG output to 33dB and adjust VR101 so that the output level is −2dB.
Separation	VR102	1. Input the 98.1MHz, connect the output of a stereo modulator to the external modulation terminal, and input a 65dB SSG signal. 2. Set the stereo modulator to the L or R ch and adjust VR102 so that the maximum separation is obtained.
CW (Carrier Wave)	VR201	1. Input the 98.1MHz/55dB, 1kHz (MONO) modulation frequency, 7.0kHz modulation rate SSG signal. 2. Connect the oscilloscope to TP7. 3. Adjust VR103 so that the waveform of TP7 is in the range 5V to 0V. (7.0±0.5kHz)  High Low 5V 0V
Dolby NR	VR301 and VR401	Insert a Dolby level test tape (400Hz−200nWb/m), connect the milli-volt meter to TP5 and TP6, and adjust VR301 and VR401 to obtain an output of 245mV$^{+1.5}_{-0.5}$dB.

● ADJUSTMENT POINT


TP3
TP2
TP4
TP1
BOTTOM SIDE
IFT102
VR104
VR103
TP7
(CW)
VR102
FM TUNER
VR105
VR101
MW/LW TUNER
VR201
VR301 (L)
VR401 (R)
TAPE MECHANISM
TP5 (L)
TP6 (R)

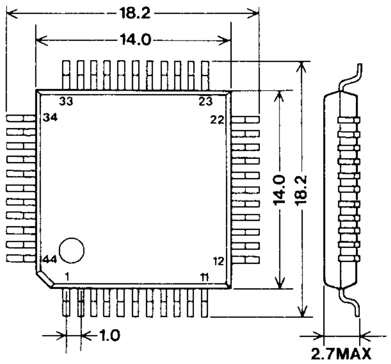
■EXPLANATION OF IC's:

※IC's other than explained below are described in Service Manual 「EXPLANATION OF IC's」 Vol.2~Vol.4.

■TA8172AF 051-1525-00 FM PROCESSOR

This IC is a FM tuner IC, which is integrated from IF to MPX stages into one chip.

Outward Form


18.2
14.0
33
23
34
22
44
12
1
11
14.0
18.2
1.0
2.7MAX

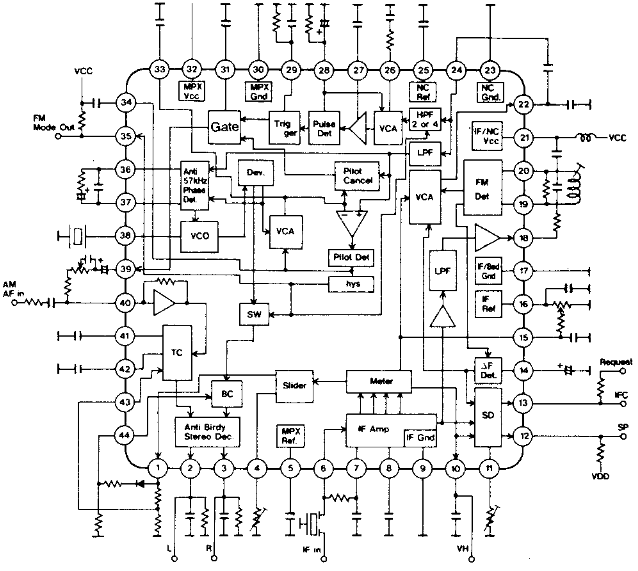
Function

IF··············IF limiter amplification/differential peak FM detection/signal meter/ electric field strength muting/detuning muting/station detection/IF counting request.

NC············Noise detection/noise AGC/noise pass filter/noise pass filter wave changeover/signal delay/unadjusted pilot cancellation/signal holding.

MPX·········Unadjusted PLL method stereo decoder/blender control/tone control (low-cut, high-cut)/anti-ARI/anti-birdie.

Block Diagram


VCC
VCC
FM Mode Out
AM AF in
MPX Vcc
MPX Gnd
NC Ref
NC Gnd
Gate
Trig ger
Pulse Det
VCA
HPF 2 or 4
IF/NC Vcc
LPF
Anti 57kHz Phase Det
Dev.
Pilot Cancel
VCA
FM Det
VCO
VCA
Pilot Det
hys
LPF
IF/Det Gnd
IF Ref
SW
TC
ΔF Det
Slider
Meter
BC
SD
Anti Birdy Stereo Dec
MPX Ref.
IF Amp
IF Gnd
Request
IFC
SP
VDD
VCC
L
R
IF in
VH

Terminal Connection

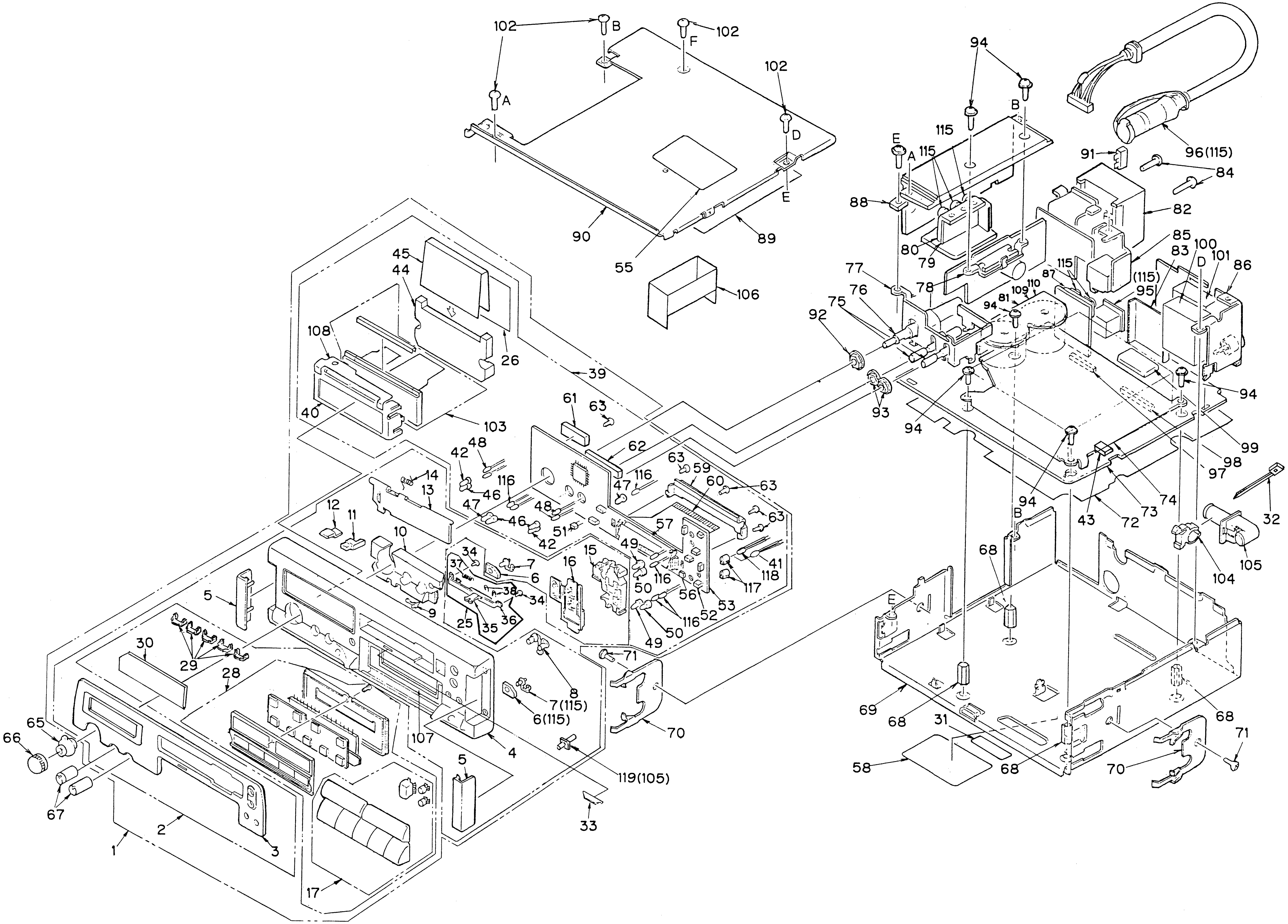
Pin No.	Symbol	Function
1	SO	Slider output terminal.
2	L out	MPX output terminal.
3	R out	
4	Slide	Blender of MPX unit, controllable range setting terminal for electric field strength of tone.
5	Ref. 3	3rd nominal voltage terminal.
6	IF in	IF amp. input terminal.
7	Bias	Provide bias to 6th pin via R.
8	By 1	IF amp. bypass terminal.
9	G 1	IF amp. ground terminal.
10	Meter	Meter output terminal in FM mode, and meter input terminal for slider circuit in AM mode.
11	SD	Sensitivity setting terminal of station detector.
12	SP	Pulse counting output terminal stopped by station detector.
13	IFC	IF counting output terminal.
14	ΔF	ΔF detector output smoothing terminal.
15	SM	Soft-mute characteristic setting terminal.
16	Ref 1	1st nominal voltage terminal.
17	G 4	Sub-straight ground terminal.
18	IF out	IF limiter amp. output terminal.
19	Det 1	Input terminal of differential peak detection.
20	Det 2	
21	B 1	Power terminals of IF and noise canceler units.
22	AF out	Audio signal output terminal.
23	G 2	Ground terminal.
24	NC in	Input terminal of noise canceler unit.
25	Ref 2	2nd nominal voltage terminal.
26	By 2	AGC amp. bypass terminal of noise canceler unit.
27	By 3	Noise amp. bypass terminal of noise canceler unit.
28	AGC	Noise AGC time-constant setting terminal of noise canceler unit.
29	PW	Trigger-pulse range setting terminal of noise canceler unit.
30	G 3	Ground terminal of MPX unit.
31	Gate	Composite signal holding gate terminal of noise canceler unit.
32	B 2	Power terminal of MPX unit.
33	P	Canceling signal output terminal for pilot cancellation.
34	PD3	Output terminal of pilot detection circuit.
35	Mode	Mode output terminal of stereo/mono selection.
36	PD1	Output terminal of phase detection circuit.
37	PD2	
38	VCO	VCO circuit oscillation terminal.
39	NC out	Noise canceler output terminal.
40	MPX in	MPX input terminal.
41	LC	Cut-off frequency setting terminal.
42	HC	
43	TC	Tone-control (low-cut, high-cut) control terminal.
44	BC	Blender control terminal.

■EXPLODED VIEW • PARTS LIST:

◎Main section

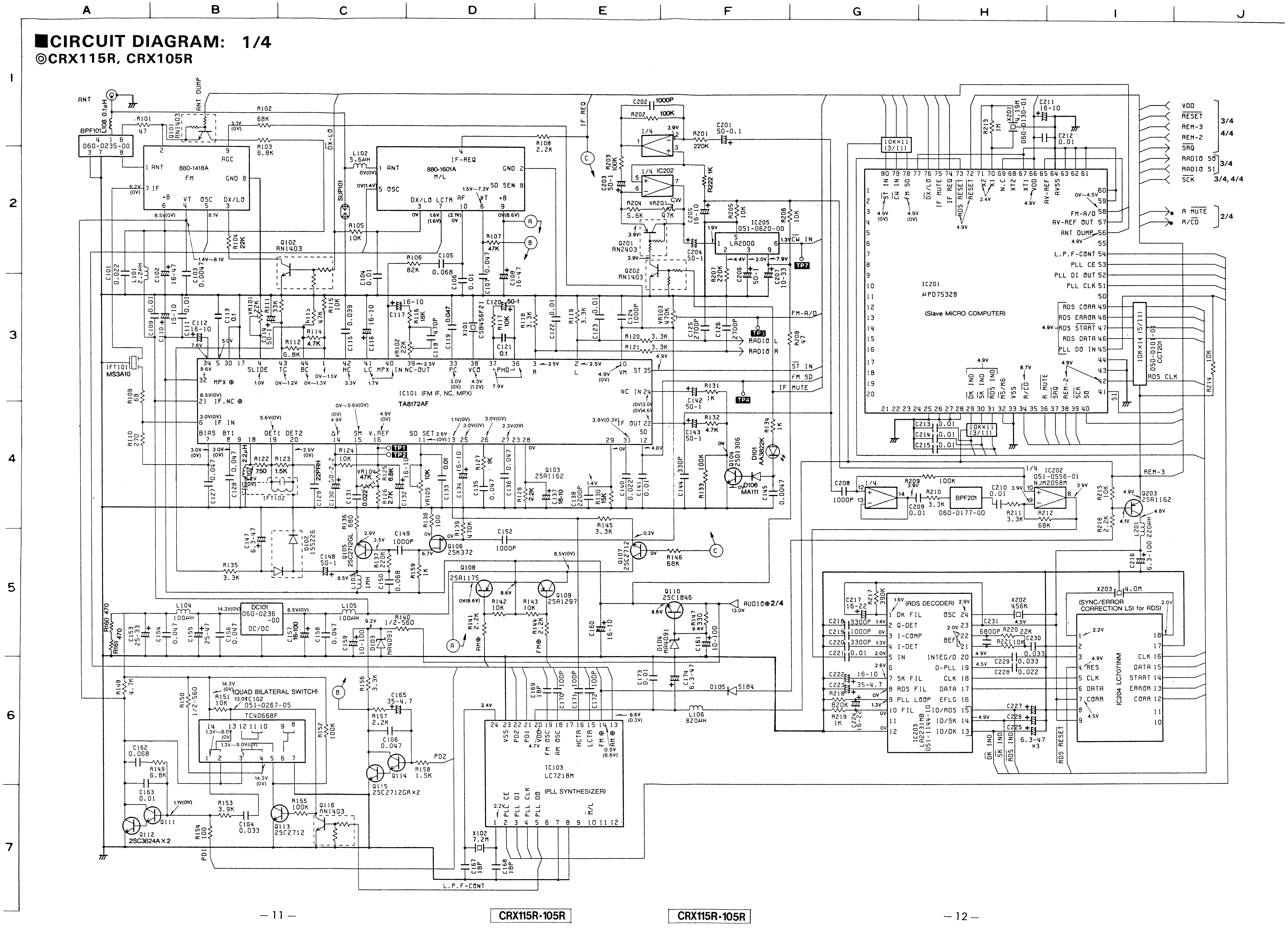
REF.NO.	PART NO.	DESCRIPTION	Q'TY
1	940-1529A	Escutcheon ass'y (CRX115R)	1
	940-1531A	Escutcheon ass'y (CRX105R)	
2	940-3269-00	Sub escutcheon ass'y (CRX115R)	1
	940-3270-00	Sub escutcheon ass'y (CRX105R)	
3	373-0700-00	Dial cover (CRX115R)	1
	373-0700-01	Dial cover (CRX105R)	
4	370-5202-02	Escutcheon (CRX115R)	1
	370-5202-03	Escutcheon (CRX105R)	
5	371-3642-00	Trim plate	2
6	335-3359-00	Illumination plate	2(115) 1(105)
7	382-2212-00	Button	2(115) 1(105)
8	382-2215-00	Button (RDS)	1
9	382-2216-00	Button (ILLUMI)	1
10	335-3358-00	Illumination plate (VOL)	1
11	335-3361-00	Indicator plate (CATS)	1
12	335-3375-00	Hook plate	1
13	320-0431-66	Dustproof cover (CRX115R)	1
	320-0431-67	Dustproof cover (CRX105R)	
14	750-2626-00	Spring	1
15	335-3360-01	Illumi. plate (CD BUTTON)	1
16	335-3381-00	Button holder (EJ, CD, TU)	1
17	947-0231-00	Button ass'y (CRX115R)	1
	947-0232-00	Button ass'y (CRX105R)	
25	330-0001A	Lock lever ass'y	1
26	347-3326-00	Film	1
28	940-1528A	DCP ass'y (CRX115R)	1
	940-1530A	DCP ass'y (CRX105R)	
29	335-3363-00	Illumi. indicator	5
30	373-0703-00	Dial cover	1
31	347-3315-00	Shade	1
32	335-0833-01	Lead holder	1
33	382-2217-00	DCP eject button	1
34	716-0674-00	Screw	2
35	330-9395-01	Hook	1
36	330-9396-00	SP-plate	1
37	750-2638-00	Off arm spring	1
38	743-1500-20	E-ring	2
39	990-0152A	Switch P.W.B ass'y (CRX115R)	1
	990-0153A	Switch P.W.B ass'y (CRX105R)	
40	330-9393-00	Shield cover (LCD)	1
41	017-0345-00	Pilot lamp (Parts side)	1
42	345-4441-58	P.L. cap (Amber)	2
43	345-7017-00	Spacer	1
44	335-3380-00	Illumination plate (LCD)	1
45	347-3240-00	Film	1
46	345-4441-61	P.L. cap (Green)	3
47	345-4441-01	P.L. cap (Amber)	2
48	017-0373-00	Pilot lamp	4
49	345-3436-56	P.L. cap (Green)	2
50	345-3436-38	P.L. cap (Amber)	2
51	001-0459-01	LED	1
52	013-3741-01	Switch	8(115) 7(105)
53	099-9084-01	SW-P.W.B	1
55	285-1410-00	Guide label (Service)	1
56	013-3916-00	Switch (RESET)	1
57	074-0913-00	DCP connecter	1
58	286-7867-00	Set plate (CRX115R)	1
	286-7868-00	Set plate (CRX105R)	

REF.NO.	PART NO.	DESCRIPTION	Q'TY
59	330-9394-00	Connecter holder	1
60	099-9086-00	P.W.B (Flexible)	1
61	074-0931-14	Plug (14P)	1
62	074-0931-22	Plug (22P)	1
63	702-2005-81	Tap screw (2x5)	5
65	380-5063-00	Knob (FAD)	1
66	380-5062-00	Knob (MAIN)	1
67	380-5135-00	Knob (BASS/TRE)	2
68	716-0875-00	Spacer (Stud bolt)	4
69	311-1444-06	Lower case (CRX115R)	1
	311-1444-07	Lower case (CRX105R)	
70	750-2649-01	Spring	2
71	714-3006-41	Machine screw (M3x6)	2
72	347-3231-00	Insulator	1
73	099-9085-06	Main P.W.B	1
74	930-0597-00	Tape mechanism (SFX-Type O)	1
75	012-4987-00	Variable resistor (BASS/TRE)	2
76	012-4988-00	Variable resistor (MAIN)	1
77	330-9390-00	VOL holder	1
78	330-8976-01	IC support	1
79	330-9409-00	Heat sink holder	1
80	313-1423-00	Heat sink (Power supply)	1
81	313-1436-00	Heat sink (Motor)	1
82	074-0930-00	Connecter (ISO 26P)	1
83	347-2339-00	Insulator (RDS)	1
84	714-2610-81	Machine screw (M2.6x10)	2
85	330-9391-00	Back plate	1
86	330-9392-01	ANT. plate	1
87	313-1422-00	IC holder	1
88	313-1398-07	Heat sink	1
89	330-9447-00	Shield plate	1
90	303-0383-00	Upper cover	1
91	060-0057-56	Fuse (10A)	1
92	722-0370-00	Nut (MAIN)	1
93	722-0433-00	Nut (BASS/TRE)	2
94	716-0878-00	IT-screw	7
95	074-0818-00	Outlet socket (CRX115R)	1
96	854-1866-00	Extension lead (CRX115R)	1
97	076-0389-11	Connecter (11P)	1
98	076-0389-20	Connecter (20P)	1
99	060-0236-00	D-D converter	1
100	880-1601A	Tuner pack (LM/MW)	1
101	880-1418A	Tuner pack (FM)	1
102	714-2606-81	Machine screw (M2.6x6)	4
103	379-0025A	LCD ass'y	1
104	335-3399-00	ANT. holder	1
105	092-0641-00	ANT. adapter	1
106	347-3291-00	Insulator (Duct)	1
107	285-1444-00	DCP label	1
108	347-3272-00	Conducter	1
109	347-3265-00	Insulator	1
110	347-3259-00	Double face	1
115	714-2608-81	Machine screw (M2.6x8)	5
116	017-0345-09	Pilot lamp	7
117	345-3335-10	P.L. cap (Green)	2
118	017-0345-01	Pilot lamp (Pattern side)	1
119	335-3441-01	Spacer (CRX105)	1


B
F
A
D
E
B
E
A
D
(115)
B
E

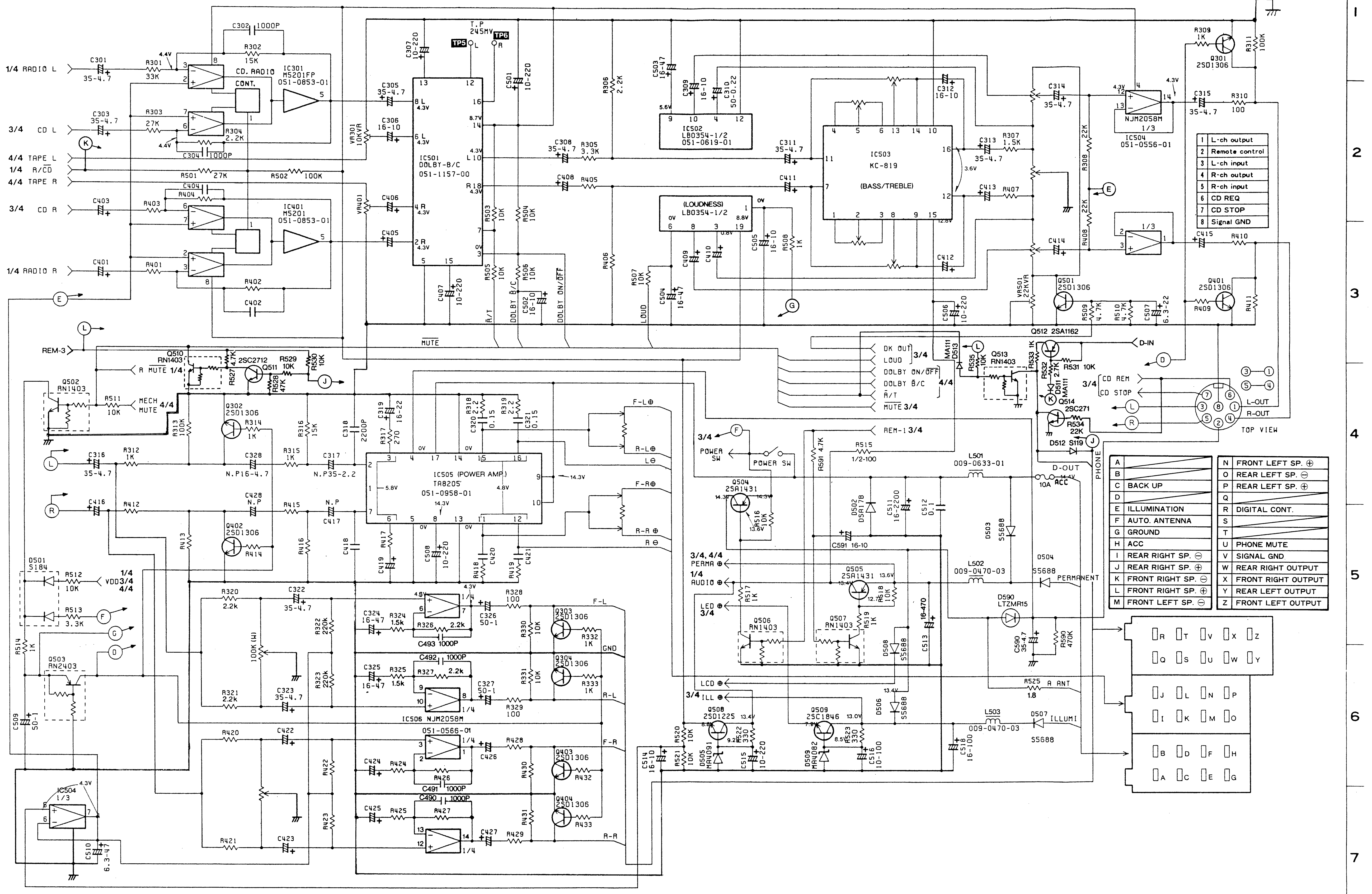
■CIRCUIT DIAGRAM: 1/4

◎CRX115R, CRX105R


A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
ANT
ANT DUMP
L108 0.1μH
BPF101
060-0235-00
R101 47
Q101 RN1403
R102 68K
R103 6.8K
880-1418A
FM
AGC
1 ANT
GND 8
7 IF
+B
VT
OSC
DX/LO
DX-LO
L102 5.6μH
880-1601A
M/L
IF-REQ
1 ANT
GND 2
5 OSC
SD SEN 8
DX/LO LCTR
AF
VT
+B
SUP101
R105 10K
R104 22K
Q102 RN1403
R106 82K
C105 0.068
R107 47K
R108 2.2K
C101 0.022
L101 2.2μH
C102 16-47
C103 0.0047
C104 0.01
C106 0.01
C107 0.047
C108 16-47
IF REQ
C202 1000P
R202 100K
C201 50-0.1
R201 220K
1/4 IC202
R203 100K
C203 50-1
R222 1K
R204 5.6K
VR201 47K
CW
Q201 RN2403
Q202 RN1403
C205 16-10
C204 50-1
R205 10K
R206 10K
IC205 051-0620-00
LA2000
CW IN
TP7
R207 220K
C206 50-1
C207 10-33
FM-A/D
TP3
RADIO L
RADIO R
R208 47
C125 2700P
C126 2700P
R120 3.3K
R121 3.3K
VR103 470K
C124 1000P
R119 3.3K
R118 3.3K
X101 CSB456F21
R117 10K
C121 0.1
C120 50-1
C117 16-10
R116 18K
C118 470P
VR102 22K
C119 0.047
C116 16-10
C115 0.039
R115 10K
R113 47K
R114 4.7K
R112 6.8K
R111 33K
VR101 22K
C114 50-1
C113 0.1
C112 16-10
C111 0.01
C110 15-10
C109 0.01
IFT101 MS3A10
R109 68
R110 270
IC101 (FM IF, NC, MPX)
TA8172AF
MPX ⊕
IF.NC ⊕
IF IN
BIAS
BT1
DET1
DET2
SLIDE
TC
BC
HC
LC
MPX IN
NC-OUT
PC
VCO
PHD
VM
ST 35
NC IN 24
IF OUT 22
SD
SD SET
ΔF
SM
V.REF
ST IN
FM SD
IF MUTE
R131 1K
TP4
C142 50-1
C143 50-1
R132 4.7K
Q104 2SD1306
D101 AA3822K
R134 1K
D106 MA111
C145 0.0047
R133 100K
C144 330P
C127 0.047
C128 0.047
L107 2.2μH
R122 750
R123 1.5K
IFT102
C129 22PRH
R124 10K
C130 50-2.2
C131 0.022
VR104 47K
R125 6.8K
R126 2.7K
C132 16-1
TP1
TP2
VR105 10K
C133 0.01
C134 16-10
R127 1K
C135 0.047
C136 0.047
Q103 2SA1162
R128 2.2K
C137 16-10
C138 2200P
R130 15K
C140 0.022
C141 0.01
C147 6.3-47
D102 1SS226
R135 3.3K
C148 50-1
Q105 2SC2712GL
R136 680
R137 220K
L103 1MH
C150 0.068
C149 1000P
Q106 2SK372
R138 100
R139 470K
C152 1000P
R159 1K
R145 3.3K
Q107 2SC2712
R146 68K
Q108 2SA1175
Q109 2SA1297
R142 10K
R143 10K
R141 2.2K
R144 2.2K
AM⊕
FM⊕
Q110 2SC1846
AUDIO⊕2/4
D104 MA4091
R147 330
C161 10-100
C160 16-10
R160 470
R161 470
C153 25-33
C154 0.047
L104 100μH
C155 25-47
C156 0.047
DC101 060-0236-00
DC/DC
C157 16-100
C158 0.047
L105 100μH
C159 10-100
D103 MA4091
R140 1/2-560
R148 4.7K
R150 1/2-560
R151 10K
IC102 051-0267-05
(QUAD BILATERAL SWITCH)
TC4066BF
R152 100K
C162 0.068
R149 6.8K
C163 0.01
Q111
Q112 2SC3624A×2
R153 3.9K
C164 0.033
R154 100
PD1
Q113 2SC2712
R155 100K
Q116 RN1403
R156 3.3K
C165 35-4.7
R157 2.2K
C166 0.047
PD2
Q115 2SC2712GR×2
Q114
R158 1.5K
IC103 LC7218M
(PLL SYNTHESIZER)
VSS
PD2
PD1
VDD
FM OSC
AM OSC
HCTR
LCTR
FM ⊕
AM ⊕
PLL CE
PLL DI
PLL CLK
PLL DO
M/L
C169 18P
C170 100P
C171 100P
C172 100P
X102 7.2M
C167 18P
C168 18P
L.P.F-CONT
C173 0.01
C174 6.3-47
D105 S184
L106 820μH
IC201
μPD75328
(Slave MICRO COMPUTER)
ST IN
CW IN
FM SD
DX/LO
IF MUTE
IF REQ
RDS RESET
X2
X1
N.C
XT2
XT1
VDD
AV-REF
AVSS
FM-A/D
AV-REF OUT
ANT DUMP
L.P.F-CONT
PLL CE
PLL DI OUT
PLL CLK
RDS CORR
RDS ERROR
RDS START
RDS DATA
PLL DO IN
RDS CLK
DK IND
SK IND
RDS IND
M5/M6
VSS
R/CD
R MUTE
SRQ
REM-2
SCK
SO
SI
10K×11 (3/11)
10K×14 (5/11) 050-0101-01 CCT201
R213 1M
X201 4.19M 060-0130-01
C211 16-10
C212 0.01
R214 10K
C213 0.01
C214 0.01
C215 0.01
VDD
RESET
REM-3
REM-2
SRQ
RADIO SO
RADIO SI
SCK
R MUTE
R/CD
3/4
4/4
3/4
3/4, 4/4
2/4
C208 1000P
R209 100K
C209 0.01
R210 3.3K
BPF201 060-0177-00
C210 0.01
R211 3.3K
1/4 IC202 051-0556-01 NJM2058M
R212 68K
R215 10K
R216 2.2K
Q203 2SA1162
REM-3
L201 220μH
C216 6.3-100
C217 16-22
R217 390K
(RDS DECODER)
DK FIL
Q-DET
I-COMP
I-DET
IN
SK FIL
RDS FIL
PLL LOOP
FIL
OSC
BEF
INTEG/D
D-PLL
CLK
DATA
EFLG
ID/RDS
ID/SK
ID/DK
IC203 LA2231MB 051-1144-10
C218 3300P
C219 1000P
C220 3300P
C221 0.01
C222 16-10
C223 35-4.7
R218 820K
R219 1K
C224 16-22
X202 456K
C231 6800P
R220 22K
R221 10K
C230 0.033
C229 0.033
C228 0.022
C227
C226
C225 6.3-47 ×3
DK IND
SK IND
RDS IND
RDS RESET
X203 4.0M
(SYNC/ERROR CORRECTION LSI for RDS)
IC204 LC7071NM
RES
CLK
DATA
CORR
START
ERROR

■CIRCUIT DIAGRAM: 2/4

◎CRX115R

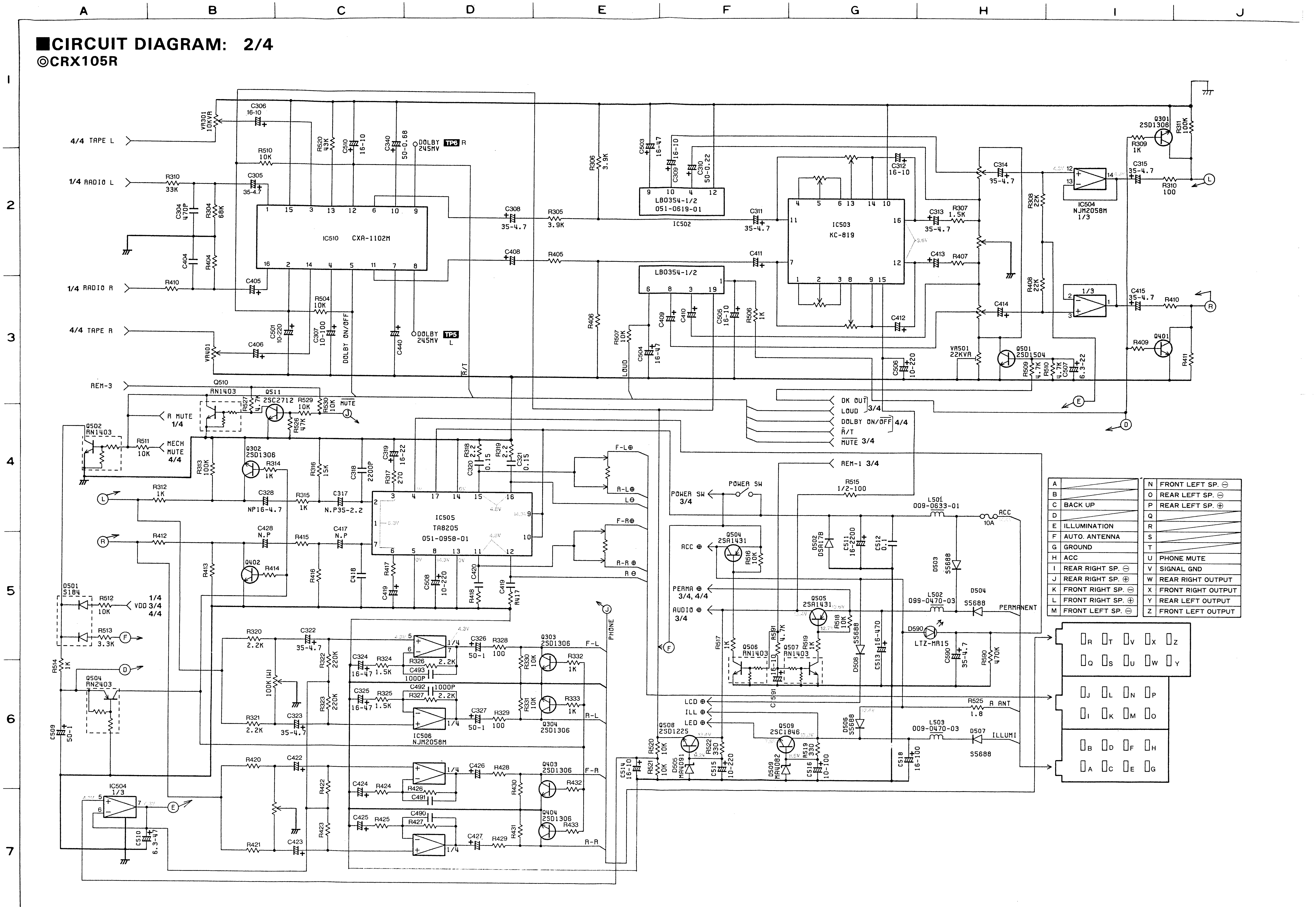

A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
1/4 RADIO L
3/4 CD L
4/4 TAPE L
1/4 R/CD
4/4 TAPE R
3/4 CD R
1/4 RADIO R
IC301 M5201FP 051-0853-01
CD. RADIO
CONT.
IC401 M5201 051-0853-01
IC501 DOLBY-B/C 051-1157-00
T.P 245MV
TP5 L
TP6 R
IC502 LB0354-1/2 051-0619-01
(LOUDNESS) LB0354-1/2
IC503 KC-819 (BASS/TREBLE)
IC504 NJM2058M 1/3 051-0556-01
Q301 2SD1306
Q401 2SD1306
Q501 2SD1306
VR501 22KVR
REM-3
R MUTE 1/4
MECH MUTE 4/4
Q502 RN1403
Q510 RN1403
Q511 2SC2712
Q302 2SD1306
Q402 2SD1306
IC505 (POWER AMP.) TA8205 051-0958-01
F-L⊕
R-L⊕
L⊖
F-R⊕
R-R⊕
R⊖
DK OUT
LOUD
DOLBY ON/OFF
DOLBY B/C
Ā/T
MUTE 3/4
REM-1 3/4
Q512 2SA1162
Q513 RN1403
Q514 2SC271
D-IN
D-OUT
3/4 CD REM
CD STOP
L-OUT
R-OUT
TOP VIEW
PHONE
POWER SW
Q504 2SA1431
Q505 2SA1431
Q506 RN1403
Q507 RN1403
Q508 2SD1225
Q509 2SC1846
L501 009-0633-01
L502 009-0470-03
L503 009-0470-03
10A ACC
PERMANENT
D590 LTZMR15
3/4, 4/4 PERMA ⊕
1/4 AUDIO ⊕
LED ⊕ 3/4
LCD ⊕
3/4 ILL ⊕
A ANT
ILLUMI
S5688
D501 S184
1/4 VDD 3/4 4/4
Q503 RN2403
IC504 1/3
IC506 NJM2058M
Q303 2SD1306
Q304 2SD1306
Q403 2SD1306
Q404 2SD1306
F-L
GND
R-L
F-R
R-R
100K(W)

1	L-ch output
2	Remote control
3	L-ch input
4	R-ch output
5	R-ch input
6	CD REQ
7	CD STOP
8	Signal GND

A		N	FRONT LEFT SP. ⊕
B		O	REAR LEFT SP. ⊖
C	BACK UP	P	REAR LEFT SP. ⊕
D		Q	
E	ILLUMINATION	R	DIGITAL CONT.
F	AUTO. ANTENNA	S	
G	GROUND	T	
H	ACC	U	PHONE MUTE
I	REAR RIGHT SP. ⊖	V	SIGNAL GND
J	REAR RIGHT SP. ⊕	W	REAR RIGHT OUTPUT
K	FRONT RIGHT SP. ⊖	X	FRONT RIGHT OUTPUT
L	FRONT RIGHT SP. ⊕	Y	REAR LEFT OUTPUT
M	FRONT LEFT SP. ⊖	Z	FRONT LEFT OUTPUT

■CIRCUIT DIAGRAM: 2/4

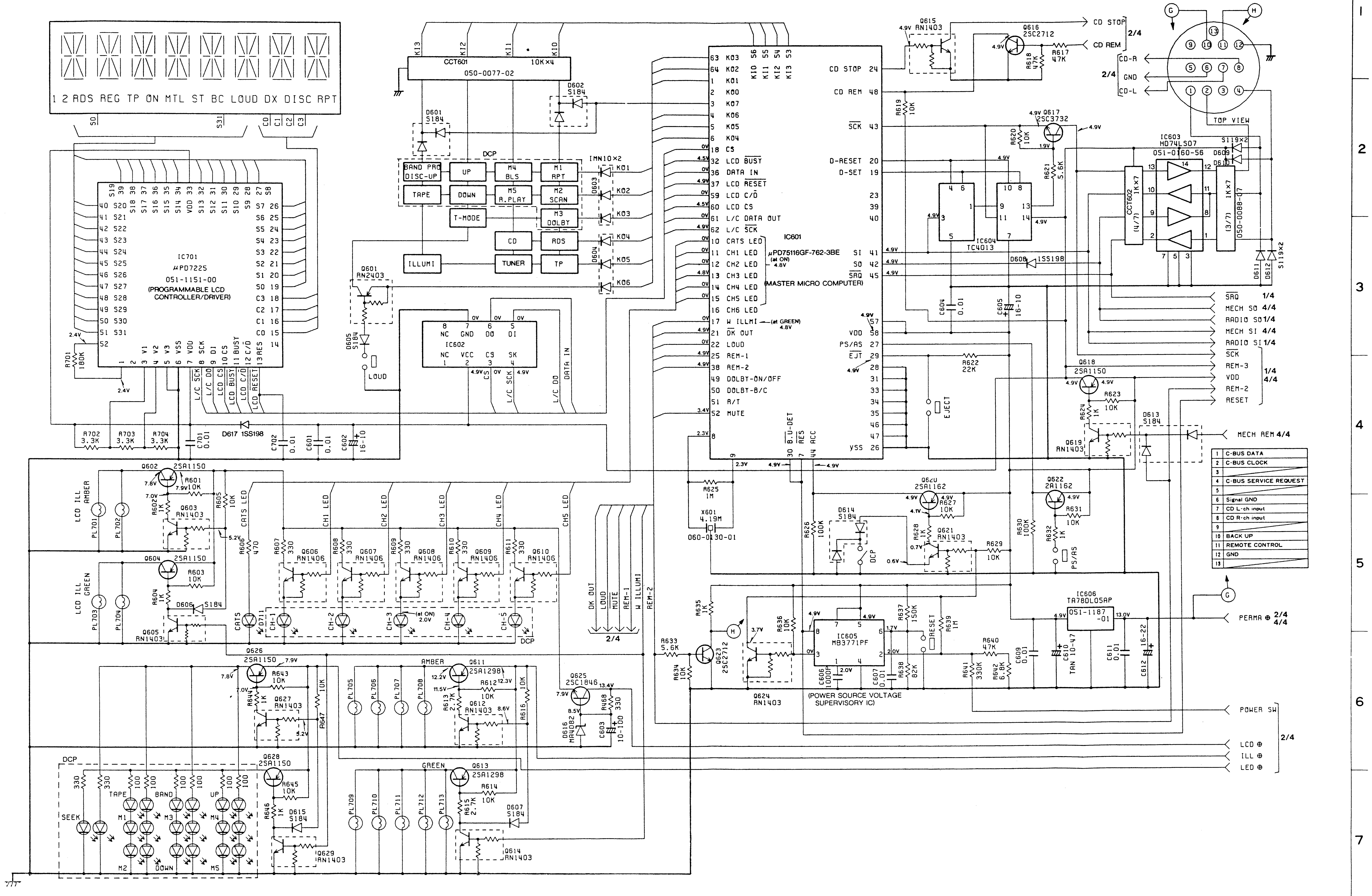
◎CRX105R


A B C D E F G H I J
1 2 3 4 5 6 7
4/4 TAPE L
1/4 RADIO L
1/4 RADIO R
4/4 TAPE R
REM-3
IC510 CXA-1102M
DOLBY TP6 R 245MV
DOLBY TP5 L 245MV
DOLBY ON/OFF
R/T
LB0354-1/2 051-0619-01
IC502
IC503 KC-819
IC504 NJM2058M 1/3
Q301 2SD1306
Q401
Q501 2SD1504
VR501 22KVR
Q510 RN1403
Q511 2SC2712
Q502 RN1403
R MUTE 1/4
MECH MUTE 4/4
MUTE
DK OUT 3/4
LOUD
DOLBY ON/OFF 4/4
R/T
MUTE 3/4
REM-1 3/4
Q302 2SD1306
Q402
IC505 TA8205 051-0958-01
F-L⊕
R-L⊕
L⊖
F-R⊕
R-R⊕
R⊖
POWER SW 3/4
POWER SW
ACC ⊕
Q504 2SA1431
PERMA ⊕ 3/4, 4/4
AUDIO ⊕ 3/4
Q505 2SA1431
Q506 RN1403
Q507 RN1403
L501 009-0633-01
ACC 10A
L502 099-0470-03
PERMANENT
D590 LTZ-MR15
D501 S184
VDD 1/4 3/4 4/4
Q504 RN2403
IC504 1/3
IC506 NJM2058M
Q303 2SD1306
Q304 2SD1306
Q403 2SD1306
Q404 2SD1306
F-L
R-L
F-R
R-R
PHONE
LCD ⊕
ILL ⊕
LED ⊕
Q508 2SD1225
Q509 2SC1846
D505 MA4091
D509 MA4082
R525 A ANT 1.8
L503 009-0470-03
D507 S5688 ILLUMI

A			N	FRONT LEFT SP. ⊖
B			O	REAR LEFT SP. ⊖
C	BACK UP		P	REAR LEFT SP. ⊕
D			Q	
E	ILLUMINATION		R	
F	AUTO. ANTENNA		S	
G	GROUND		T	
H	ACC		U	PHONE MUTE
I	REAR RIGHT SP. ⊖		V	SIGNAL GND
J	REAR RIGHT SP. ⊕		W	REAR RIGHT OUTPUT
K	FRONT RIGHT SP. ⊖		X	FRONT RIGHT OUTPUT
L	FRONT RIGHT SP. ⊕		Y	REAR LEFT OUTPUT
M	FRONT LEFT SP. ⊖		Z	FRONT LEFT OUTPUT

■CIRCUIT DIAGRAM: 3/4

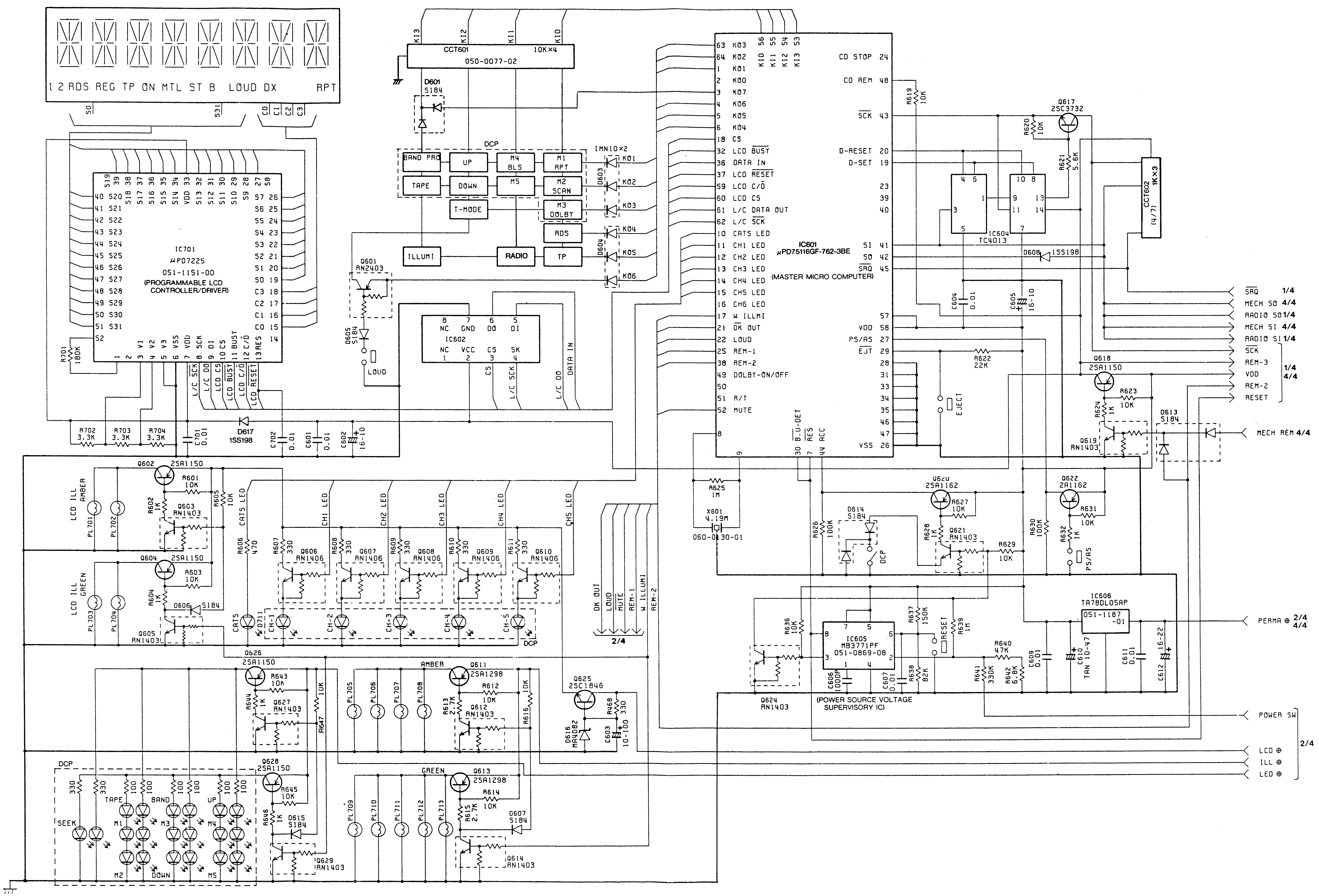
◎CRX115R


A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
1 2 RDS REG TP ON MTL ST BC LOUD DX DISC RPT
S0
S31
C0 C1 C2 C3
IC701
μPD7225
051-1151-00
(PROGRAMMABLE LCD CONTROLLER/DRIVER)
R701 180K
R702 3.3K
R703 3.3K
R704 3.3K
C701 0.01
C702 0.01
C601 0.01
C602 16-10
D617 1SS198
L/C SCK
L/C DO
L/C CS
LCD BUSY
LCD C/D
LCD RESET
CCT601
10K×4
050-0077-02
K13
K12
K11
K10
D601 S184
D602 S184
DCP
BAND PRO DISC-UP
UP
M4 BLS
M1 RPT
TAPE
DOWN
M5 A.PLAY
M2 SCAN
T-MODE
M3 DOLBY
CD
RDS
ILLUMI
TUNER
TP
IMN10×2
D603
D604
K01
K02
K03
K04
K05
K06
Q601 RN2403
D605 S184
LOUD
IC602
NC GND DO DI
NC VCC CS SK
DATA IN
IC601
μPD75116GF-762-3BE
(MASTER MICRO COMPUTER)
K03
K02
K01
K00
K07
K06
K05
K04
CS
LCD BUSY
DATA IN
LCD RESET
LCD C/D
LCD CS
L/C DATA OUT
L/C SCK
CATS LED
CH1 LED
CH2 LED
CH3 LED
CH4 LED
CH5 LED
CH6 LED
W ILLMI
DK OUT
LOUD
REM-1
REM-2
DOLBY-ON/OFF
DOLBY-B/C
A/T
MUTE
CD STOP
CD REM
SCK
D-RESET
D-SET
SI
SO
SRQ
VDD
PS/AS
EJT
VSS
B.U-DET
RES
ACC
EJECT
R622 22K
R619 10K
Q615 RN1403
Q616 2SC2712
R618 47K
R617 47K
CD STOP
CD REM
2/4
CD-R
GND
CD-L
TOP VIEW
Q617 2SC3732
R620 10K
R621 5.6K
IC603
HD74LS07
051-0160-56
CCT602 1K×7 (4/7)
1K×7 (3/7) 050-0088-07
S119×2
D609
D610
D611
D612
IC604
TC4013
D608 1SS198
C604 0.01
C605 16-10
SRQ 1/4
MECH SO 4/4
RADIO SO 1/4
MECH SI 4/4
RADIO SI 1/4
SCK
REM-3
VDD
REM-2
RESET
1/4
4/4
Q618 2SA1150
R623 10K
R624 1K
Q619 RN1403
D613 S184
MECH REM 4/4
Q602 2SA1150
R601 10K
R602 1K
Q603 RN1403
R605 10K
LCD ILL AMBER
PL701
PL702
Q604 2SA1150
R603 10K
R604 1K
D606 S184
Q605 RN1403
LCD ILL GREEN
PL703
PL704
CATS LED
CH1 LED
CH2 LED
CH3 LED
CH4 LED
CH5 LED
R606 470
R607 330
R608 330
R609 330
R610 330
R611 330
Q606 RN1406
Q607 RN1406
Q608 RN1406
Q609 RN1406
Q610 RN1406
CATS
D711
CH-1
CH-2
CH-3
CH-4
CH-5
(at ON) 2.0V
DK OUT
LOUD
MUTE
REM-1
W ILLUMI
REM-2
2/4
R625 1M
X601 4.19M
060-0130-01
R626 100K
D614 S184
DCP
Q620 2SA1162
R627 10K
R628 1K
Q621 RN1403
R629 10K
Q622 2A1162
R631 10K
R630 100K
R632 1K
PS/AS
R635 1K
R633 5.6K
R634 10K
Q623 2SC2712
Q624 RN1403
R636 10K
IC605
MB3771PF
(POWER SOURCE VOLTAGE SUPERVISORY IC)
C606 1000P
C607 0.01
R637 150K
R638 82K
RESET
R639 1M
R640 47K
R641 330K
R642 6.8K
C609 0.01
C610 TAN 10-47
IC606
TA78L05AP
051-1187-01
C611 0.01
C612 16-22
PERMA ⊕ 2/4 4/4
POWER SW
LCD ⊕
ILL ⊕
LED ⊕
2/4
Q626 2SA1150
R643 10K
R644 1K
Q627 RN1403
R647
R540 10K
AMBER
Q611 2SA1298
R612 10K
R613 2.7K
Q612 RN1403
R616 10K
PL705
PL706
PL707
PL708
Q625 2SC1846
R468 330
D616 MA4082
C603 10-100
DCP
SEEK
TAPE
BAND
UP
M1
M2
M3
M4
M5
DOWN
Q628 2SA1150
R645 10K
R646 1K
D615 S184
Q629 RN1403
GREEN
Q613 2SA1298
R614 10K
R615 2.7K
D607 S184
Q614 RN1403
PL709
PL710
PL711
PL712
PL713

1	C-BUS DATA
2	C-BUS CLOCK
3	
4	C-BUS SERVICE REQUEST
5	
6	Signal GND
7	CD L-ch input
8	CD R-ch input
9	
10	BACK UP
11	REMOTE CONTROL
12	GND
13	

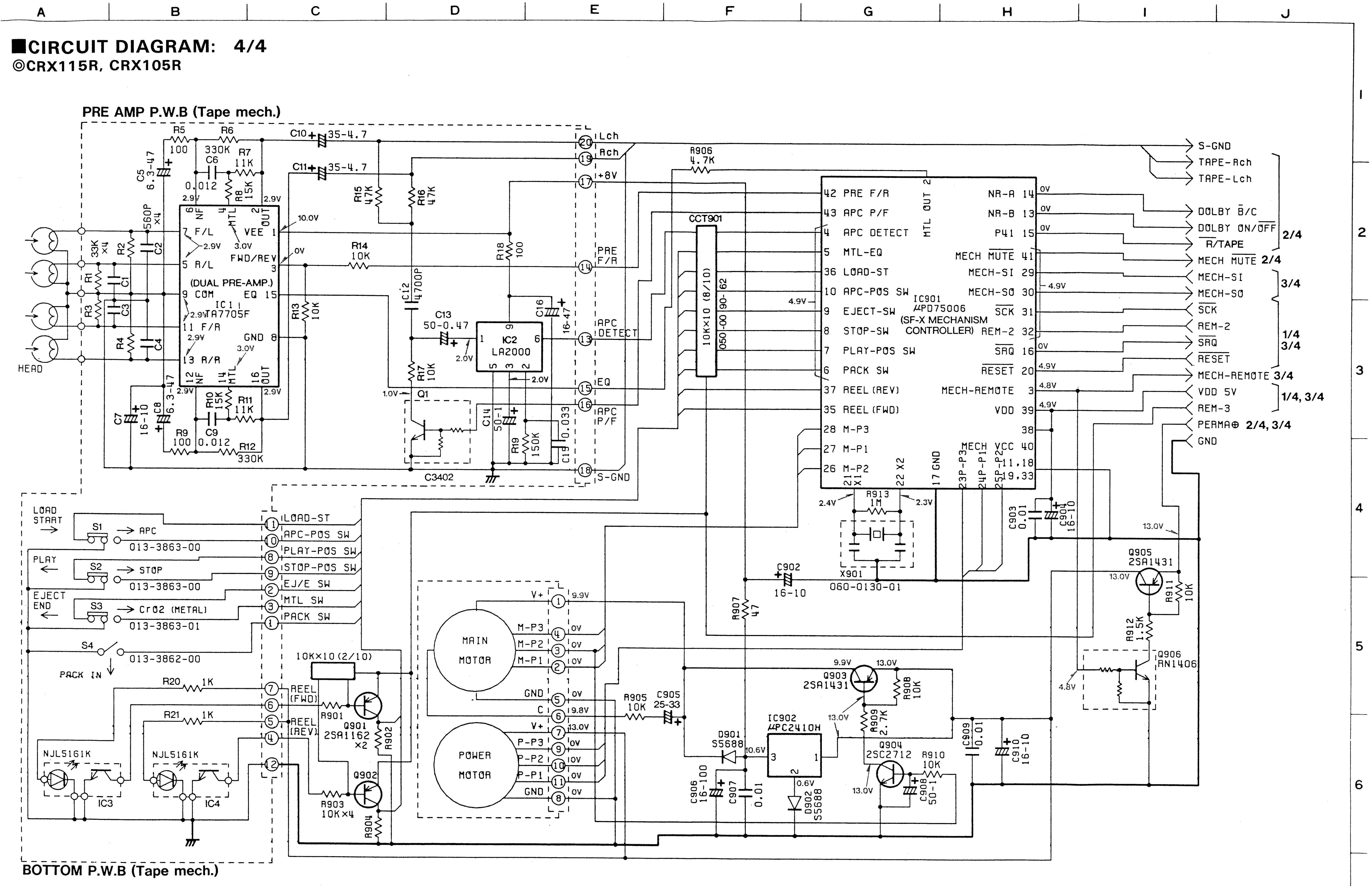
■CIRCUIT DIAGRAM: 3/4

©CRX105R

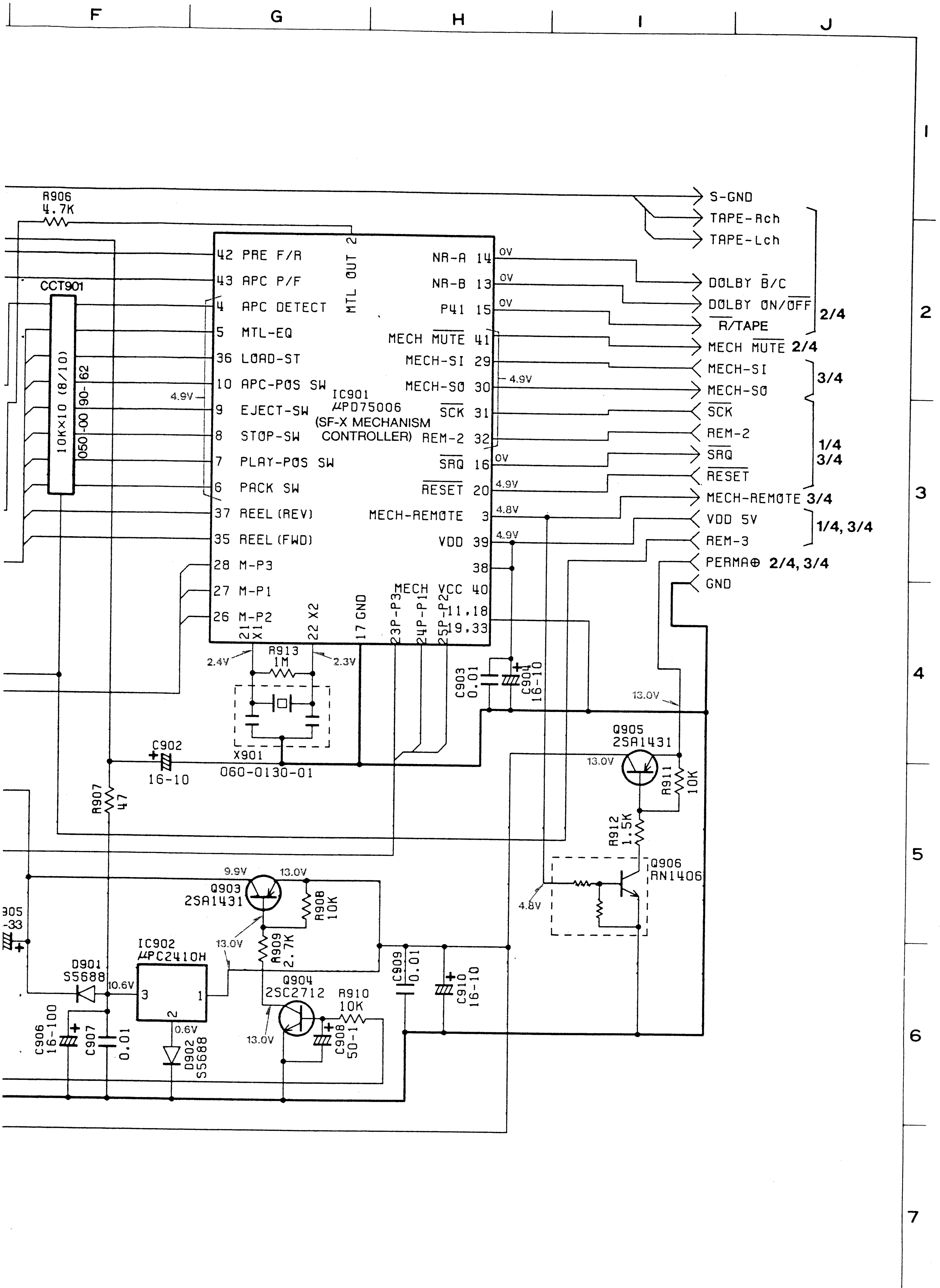

A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
1 2 RDS REG TP ON MTL ST B LOUD DX RPT
IC701
µPD7225
051-1151-00
(PROGRAMMABLE LCD CONTROLLER/DRIVER)
R701 180K
R702 3.3K
R703 3.3K
R704 3.3K
C701 0.01
D617 1SS198
C702 0.01
C601 0.01
C602 16-10
L/C SCK
L/C DO
LCD CS
LCD BUSY
LCD C/D
LCD RESET
CCT601
10K×4
050-0077-02
KI3
KI2
KI1
KI0
D601 S184
DCP
BAND PRO
UP
M4 BLS
M1 RPT
TAPE
DOWN
M5
M2 SCAN
M3 DOLBY
T-MODE
RDS
ILLUMI
RADIO
TP
IMN10×2
D603
D604
KO1
KO2
KO3
KO4
KO5
KO6
Q601 RN2403
D605 S184
LOUD
IC602
8 NC
7 GND
6 DO
5 DI
1 NC
2 VCC
3 CS
4 SK
CS
L/C SCK
L/C DO
DATA IN
IC601
µPD75116GF-762-3BE
(MASTER MICRO COMPUTER)
63 KO3
64 KO2
1 KO1
2 KO0
3 KO7
4 KO6
5 KO5
6 KO4
18 CS
32 LCD BUSY
36 DATA IN
37 LCD RESET
59 LCD C/D
60 LCD CS
61 L/C DATA OUT
62 L/C SCK
10 CATS LED
11 CH1 LED
12 CH2 LED
13 CH3 LED
14 CH4 LED
15 CH5 LED
16 CH6 LED
17 W ILLMI
21 DK OUT
22 LOUD
25 REM-1
38 REM-2
49 DOLBY-ON/OFF
50
51 R/T
52 MUTE
8
9
30 B.U-DET
7 RES
44 ACC
56 KI0
55 KI1
54 KI2
53 KI3
CD STOP 24
CD REM 48
SCK 43
D-RESET 20
D-SET 19
23
39
40
SI 41
SO 42
SRQ 45
57
VDD 58
PS/AS 27
EJT 29
28
31
33
34
35
46
47
VSS 26
R619 10K
Q617 2SC3732
R620 10K
R621 5.6K
IC604 TC4013
CCT602 (4/7) 1K×3
D608 1SS198
C604 0.01
C605 16-10
R622 22K
EJECT
Q618 2SA1150
R623 10K
R624 1K
Q619 RN1403
D613 S184
SRQ 1/4
MECH SO 4/4
RADIO SO 1/4
MECH SI 4/4
RADIO SI 1/4
SCK
REM-3
VDD
REM-2
RESET
1/4
4/4
MECH REM 4/4
R625 1M
X601 4.19M
060-0130-01
Q620 2SA1162
R627 10K
R626 100K
D614 S184
DCP
R628 1K
Q621 RN1403
R629 10K
Q622 2A1162
R631 10K
R630 100K
R632 1K
PS/AS
IC606 TA78DL05AP
051-1187-01
PERMA ⊕ 2/4 4/4
R636 10K
IC605 MB3771PF
051-0869-08
(POWER SOURCE VOLTAGE SUPERVISORY IC)
C606 1000P
C607 0.01
R637 150K
R638 82K
RESET
R639 1M
R640 47K
R641 330K
R642 6.8K
C609 0.01
C610 TAN 10-47
C611 0.01
C612 16-22
Q624 RN1403
POWER SW
LCD ⊕
ILL ⊕
LED ⊕
2/4
Q602 2SA1150
R601 10K
R602 1K
Q603 RN1403
R605 10K
LCD ILL AMBER
PL701
PL702
Q604 2SA1150
R603 10K
R604 1K
D606 S184
Q605 RN1403
LCD ILL GREEN
PL703
PL704
CATS LED
CH1 LED
CH2 LED
CH3 LED
CH4 LED
CH5 LED
R606 470
R607 330
R608 330
R609 330
R610 330
R611 330
Q606 RN1406
Q607 RN1406
Q608 RN1406
Q609 RN1406
Q610 RN1406
CATS D711
CH-1
CH-2
CH-3
CH-4
CH-5
DCP
DK OUT
LOUD
MUTE
REM-1
W ILLUMI
REM-2
2/4
Q626 2SA1150
R643 10K
R644 1K
Q627 RN1403
R647 10K
AMBER
Q611 2SA1298
R612 10K
R613 2.7K
Q612 RN1403
R616 10K
PL705
PL706
PL707
PL708
Q625 2SC1846
R468 330
D616 MA4082
C603 10-100
DCP
330
330
100
100
100
100
100
100
TAPE
BAND
UP
SEEK
M1
M3
M4
M2
DOWN
M5
Q628 2SA1150
R645 10K
R646 1K
D615 S184
Q629 RN1403
GREEN
Q613 2SA1298
R614 10K
R615 2.7K
D607 S184
Q614 RN1403
PL709
PL710
PL711
PL712
PL713

■CIRCUIT DIAGRAM: 4/4

◎CRX115R, CRX105R

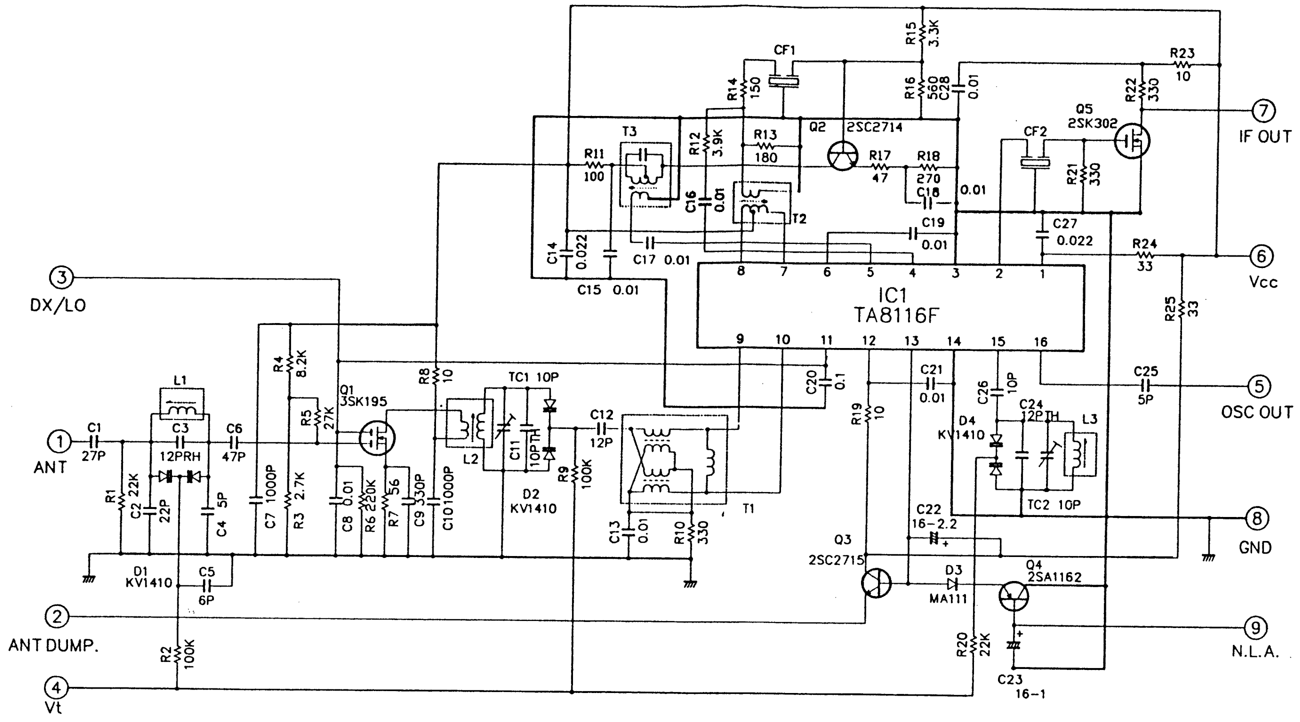


A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
PRE AMP P.W.B (Tape mech.)
BOTTOM P.W.B (Tape mech.)
HEAD
IC1 TA7705F
(DUAL PRE-AMP.)
IC2 LA2000
IC901 μPD75006
(SF-X MECHANISM CONTROLLER)
IC902 μPC2410H
CCT901
10K×10 (8/10)
050-00 90-62
10K×10 (2/10)
X901
060-0130-01
Q1
C3402
Q901 2SA1162 ×2
Q902
Q903 2SA1431
Q904 2SC2712
Q905 2SA1431
Q906 RN1406
D901 S5688
D902 S5688
NJL5161K
IC3
IC4
MAIN MOTOR
POWER MOTOR
LOAD START
PLAY
EJECT END
PACK IN
S1 → APC 013-3863-00
S2 → STOP 013-3863-00
S3 → CrO2 (METAL) 013-3863-01
S4 013-3862-00
Lch
Rch
+8V
PRE F/R
APC DETECT
EQ
APC P/F
S-GND
LOAD-ST
APC-POS SW
PLAY-POS SW
STOP-POS SW
EJ/E SW
MTL SW
PACK SW
REEL (FWD)
REEL (REV)
V+
M-P3
M-P2
M-P1
GND
C
P-P3
P-P2
P-P1
42 PRE F/R
43 APC P/F
4 APC DETECT
5 MTL-EQ
36 LOAD-ST
10 APC-POS SW
9 EJECT-SW
8 STOP-SW
7 PLAY-POS SW
6 PACK SW
37 REEL (REV)
35 REEL (FWD)
28 M-P3
27 M-P1
26 M-P2
21 X1
22 X2
17 GND
23P-P3
24P-P1
25P-P2
MTL OUT 2
NR-A 14
NR-B 13
P41 15
MECH MUTE 41
MECH-SI 29
MECH-SO 30
SCK 31
REM-2 32
SRQ 16
RESET 20
MECH-REMOTE 3
VDD 39
38
MECH VCC 40
11,18
19,33
S-GND
TAPE-Rch
TAPE-Lch
DOLBY B/C
DOLBY ON/OFF
R/TAPE
2/4
MECH MUTE 2/4
MECH-SI
MECH-SO
3/4
SCK
REM-2
SRQ
RESET
1/4
3/4
MECH-REMOTE 3/4
VDD 5V
REM-3
1/4, 3/4
PERMA⊕ 2/4, 3/4
GND
R5 100
R6 330K
R7 11K
R8 15K
C5 6.3-47
C6 0.012
560P ×4
33K ×4
R1
R2
R3
R4
C1
C2
C3
C4
C7 16-10
C8 6.3-47
R9 100
C9 0.012
R10 15K
R11 11K
R12 330K
R13 10K
R14 10K
R15 47K
R16 47K
R17 10K
R18 100
R19 150K
C10 35-4.7
C11 35-4.7
C12 4700P
C13 50-0.47
C14 50-1
C16 16-47
C19 0.033
R20 1K
R21 1K
R901
R902
R903 10K×4
R904
R905 10K
R906 4.7K
R907 47
R908 10K
R909 2.7K
R910 10K
R911 10K
R912 1.5K
R913 1M
C902 16-10
C903 0.01
C904 16-10
C905 25-33
C906 16-100
C907 0.01
C908 50-1
C909 0.01
C910 16-10
7 F/L
5 R/L
9 COM
11 F/R
13 R/R
VEE 1
FWD/REV 3
EQ 15
GND 8
6 NF
4 MTL
2 OUT
12 NF
14 MTL
16 OUT
10.0V
2.9V
3.0V
0V
2.0V
1.0V
9.9V
9.8V
13.0V
10.6V
0.6V
4.9V
4.8V
2.4V
2.3V



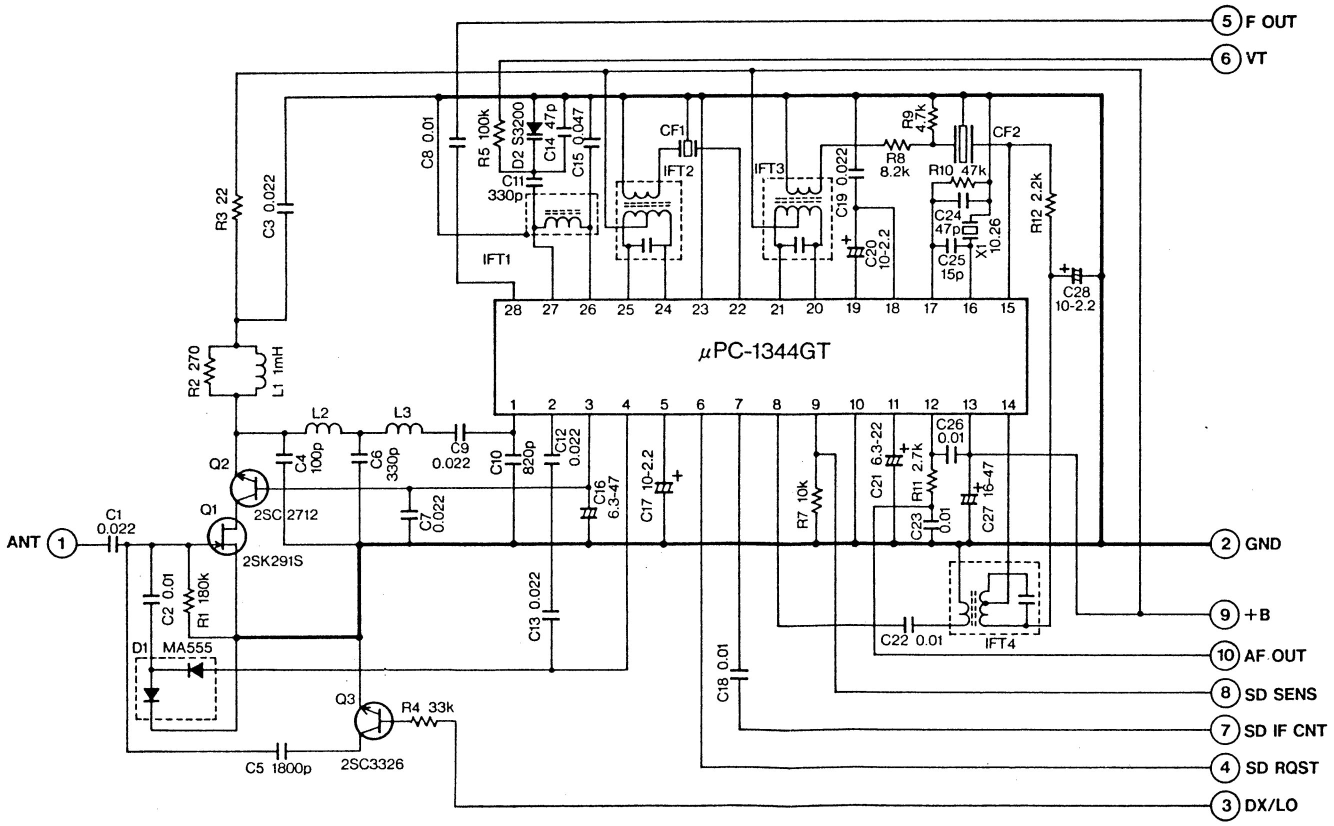
F
G
H
I
J
1
2
3
4
5
6
7
R906
4.7K
CCT901
10K×10 (8/10)
050-00 90-62
4.9V
42 PRE F/R
43 APC P/F
4 APC DETECT
5 MTL-EQ
36 LOAD-ST
10 APC-POS SW
9 EJECT-SW
8 STOP-SW
7 PLAY-POS SW
6 PACK SW
37 REEL (REV)
35 REEL (FWD)
28 M-P3
27 M-P1
26 M-P2
MTL OUT 2
IC901
μPD75006
(SF-X MECHANISM CONTROLLER)
NR-A 14
NR-B 13
P41 15
MECH MUTE 41
MECH-SI 29
MECH-SO 30
SCK 31
REM-2 32
SRQ 16
RESET 20
MECH-REMOTE 3
VDD 39
38
MECH VCC 40
P2 11,18
19,33
21 X1
22 X2
17 GND
23P-P3
24P-P1
25P-P2
0V
0V
0V
4.9V
0V
4.9V
4.8V
4.9V
S-GND
TAPE-Rch
TAPE-Lch
DOLBY B/C
DOLBY ON/OFF
R/TAPE
MECH MUTE 2/4
MECH-SI
MECH-SO
SCK
REM-2
SRQ
RESET
MECH-REMOTE 3/4
VDD 5V
REM-3
PERMA⊕ 2/4, 3/4
GND
2/4
3/4
1/4
3/4
1/4, 3/4
2.4V
2.3V
R913
1M
X901
060-0130-01
C902
16-10
C903
0.01
C904
16-10
13.0V
Q905
2SA1431
13.0V
R911
10K
R912
1.5K
Q906
RN1406
4.8V
R907
47
9.9V
13.0V
Q903
2SA1431
R908
10K
R909
2.7K
13.0V
IC902
μPC2410H
3
1
2
10.6V
0.6V
D901
S5688
D902
S5688
Q904
2SC2712
R910
10K
13.0V
C906
16-100
C907
0.01
C908
50-1
C909
0.01
C910
16-10
305
-33

■FM TUNER PACK: 880-1418A



CF1
R15 3.3K
R16 560
C28 0.01
R23 10
R22 330
Q5 2SK302
⑦ IF OUT
R14 150
R12 3.9K
R13 180
Q2 2SC2714
R17 47
R18 270
C18 0.01
CF2
R21 330
T3
R11 100
C16 0.01
T2
C19 0.01
C27 0.022
R24 33
⑥ Vcc
C14 0.022
C17 0.01
C15 0.01
IC1
TA8116F
8 7 6 5 4 3 2 1
9 10 11 12 13 14 15 16
R25 33
③ DX/LO
① ANT
C1 27P
R1 22K
C2 22P
L1
C3 12PRH
C4 5P
C6 47P
C7 1000P
R4 8.2K
R5 27K
R3 2.7K
Q1 3SK195
C8 0.01
R6 220K
R7 56
C9 30P
C10 1000P
R8 10
TC1 10P
L2
C11 10P
D2 KV1410
R9 100K
C12 12P
C13 0.01
R10 330
T1
C20 0.1
R19 10
C21 0.01
C26 10P
C24 12P
D4 KV1410
L3
TC2 10P
C22 16-2.2
C25 5P
⑤ OSC OUT
⑧ GND
D1 KV1410
C5 6P
Q3 2SC2715
D3 MA111
Q4 2SA1162
R20 22K
C23 16-1
② ANT DUMP.
R2 100K
⑨ N.L.A.
④ Vt

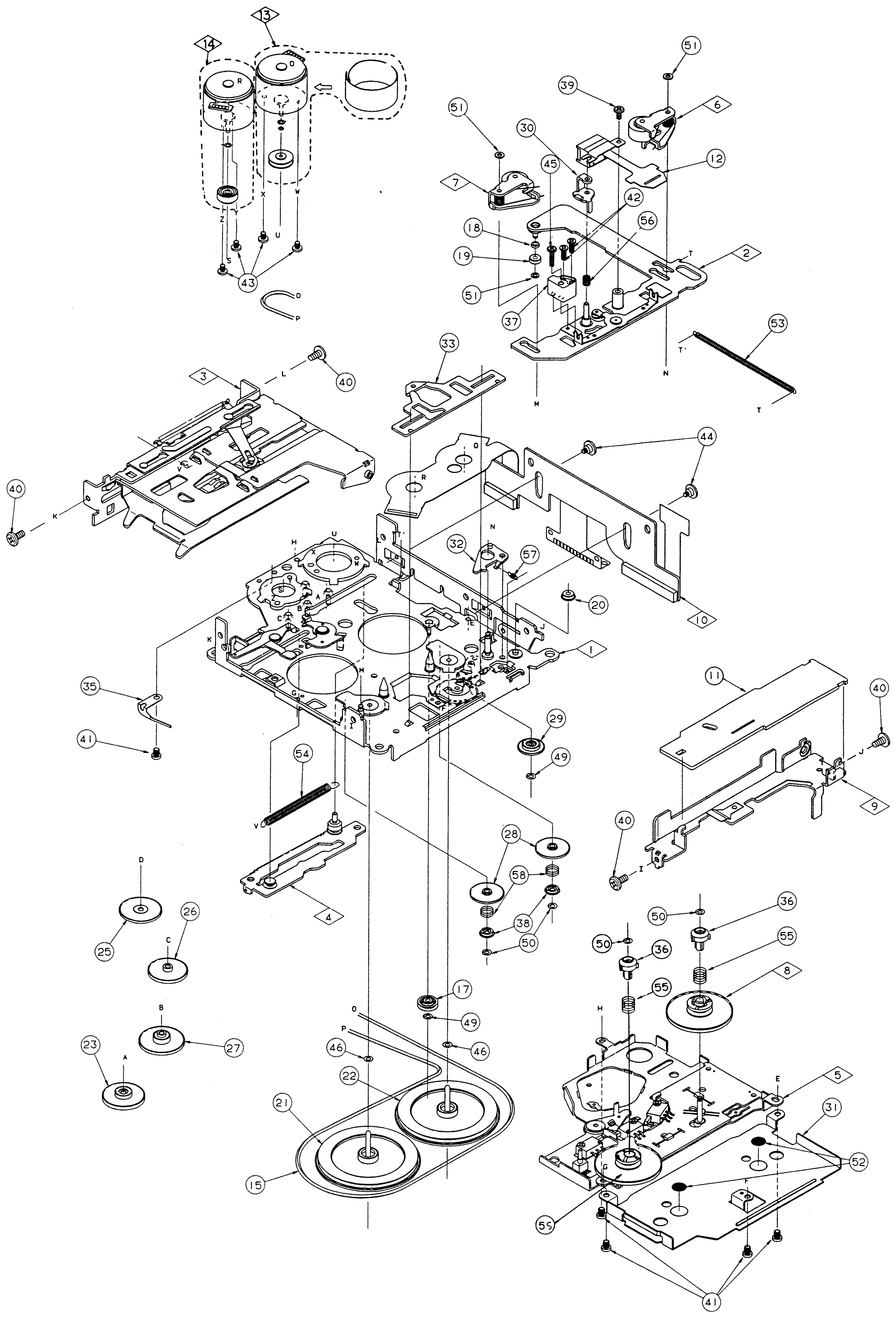
■MW/LW TUNER PACK: 880-1601A



⑤ F OUT
⑥ VT
C8 0.01
R5 100k
D2 S3200
C14 47p
C15 0.047
C11 330p
IFT1
CF1
IFT2
IFT3
C19 0.022
C20 10-2.2
R9 4.7k
R8 8.2k
R10 47k
CF2
C24 47p
C25 15p
X1 10.26
R12 2.2k
C28 10-2.2
R3 22
C3 0.022
28 27 26 25 24 23 22 21 20 19 18 17 16 15
μPC-1344GT
1 2 3 4 5 6 7 8 9 10 11 12 13 14
R2 270
L1 1mH
L2
L3
C4 100p
C6 330p
C9 0.022
C10 820p
C12 0.022
C16 6.3-47
C17 10-2.2
R7 10k
C21 6.3-22
R11 2.7k
C23 0.01
C26 0.01
C27 16-47
Q2
Q1
2SC2712
C7 0.022
ANT ①
C1 0.022
2SK291S
C2 0.01
R1 180k
C13 0.022
C18 0.01
C22 0.01
IFT4
D1 MA555
Q3
R4 33k
C5 1800p
2SC3326
② GND
⑨ +B
⑩ AF OUT
⑧ SD SENS
⑦ SD IF CNT
④ SD RQST
③ DX/LO

■EXPLODED VIEW • PARTS LIST:

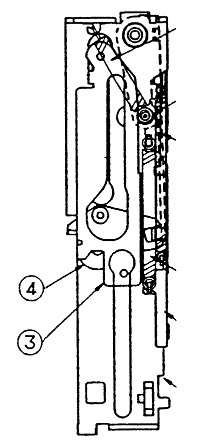
◎Tape mechanism section 930-0597-00 (SFX type 0)

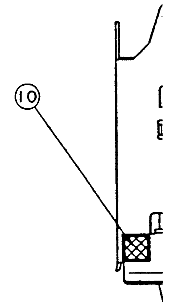


REF.NO.	PART NO.	DESCRIPTION	Q'TY
1	960-4322-01	Deck plate ass'y	1
2	960-4005-10	Head plate ass'y	1
3	960-4320-04	Eject sub ass'y	1
4	960-4011-07	Mode plate ass'y	1
5	960-4346-01	Bottom sub ass'y	1
6	960-4050-06	Roller sub ass'y F	1
7	960-4051-06	Roller sub ass'y R	1
8	960-4336-01	Reel ass'y F	1
9	960-4117-01	P.W.B frame ass'y	1
10	990-0693-01	P.W.B ass'y	1
11	099-9582-00	PRE P.W.B	1
12	011-0310-10	Head	1
13	SMA-123-100	Main motor ass'y	1
14	SMA-122-100	Power motor ass'y	1
15	602-0111-00	Belt	1
17	604-0036-05	Tension pulley	1
18	610-0316-01	Head-P-roller-M	1
19	610-0313-02	Driving roller	1
20	610-0347-00	Head-P-G-roller	1
21	611-0084-03	Flywheel R	1
22	611-0085-02	Flywheel F	1
23	613-0122-01	Shift-P-gear	1
25	613-0246-00	Gear A	1
26	613-0247-00	Gear B	1
27	613-0248-00	Gear C	1
28	613-0306-00	Play idler gear	2
29	613-0250-00	Change gear A	1

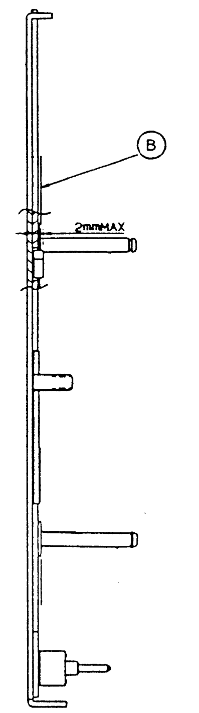
REF.NO.	PART NO.	DESCRIPTION	Q'TY
30	630-2342-04	Adjust link	1
31	630-2345-05	Flywheel plate	1
32	630-2374-01	CH-hold plate	1
33	630-2343-06	Change plate	1
35	630-2408-01	Motor spring	1
36	631-2024-00	Slide bush	2
37	631-0650-00	Adjust base	1
38	631-0637-00	Idler roller	2
39	714-2003-81	Machine screw (M2x3)	1
40	716-1470-00	Machine screw	4
41	716-0717-10	Steel screw	5
42	716-0833-02	Azimuth screw	2
43	716-0835-00	Screw	4
44	716-1523-00	P.W.B-G-screw	2
45	739-2090-17	Precision screw	1
46	746-0624-00	Washer	2
49	746-0724-00	Washer	2
50	746-0857-00	Washer	4
51	746-0768-00	Washer	3
52	746-0767-00	Washer	2
53	750-2715-02	Head-P-spring	1
54	750-3018-00	Mode-P-spring	1
55	750-3033-00	Slide spring	2
56	750-2721-02	Azimuth spring	1
57	750-2725-00	CH-hold spring	1
58	750-2793-01	Idler spring	2
59	960-4337-01	Reel ass'y R	1

◎EJECT SU





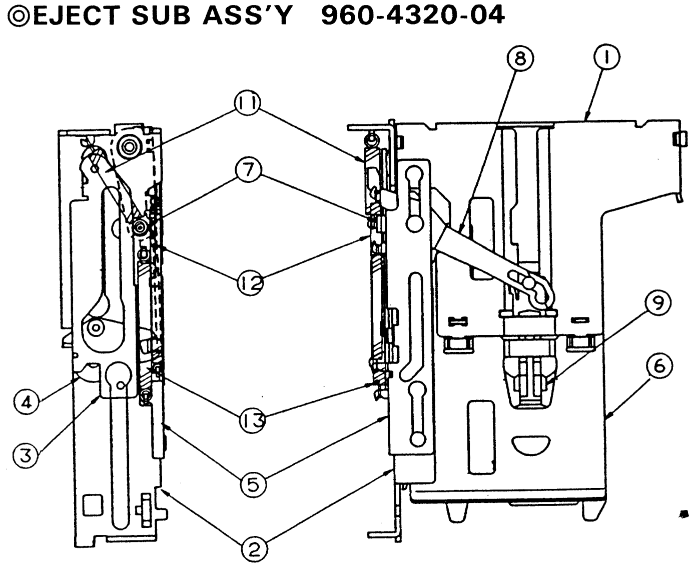
◎BOTTOM S

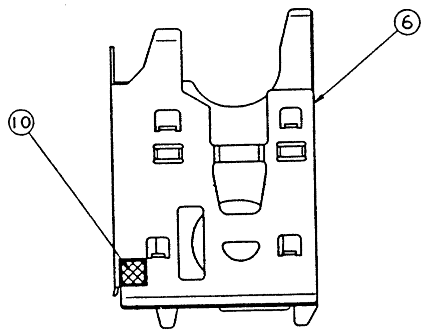


F.NO.	PART NO.	DESCRIPTION	Q'TY
1	960-4322-01	Deck plate ass'y	1
2	960-4005-10	Head plate ass'y	1
3	960-4320-04	Eject sub ass'y	1
4	960-4011-07	Mode plate ass'y	1
5	960-4346-01	Bottom sub ass'y	1
6	960-4050-06	Roller sub ass'y F	1
7	960-4051-06	Roller sub ass'y R	1
8	960-4336-01	Reel ass'y F	1
9	960-4117-01	P.W.B frame ass'y	1
10	990-0693-01	P.W.B ass'y	1
11	099-9582-00	PRE P.W.B	1
12	011-0310-10	Head	1
13	SMA-123-100	Main motor ass'y	1
14	SMA-122-100	Power motor ass'y	1
15	602-0111-00	Belt	1
17	604-0036-05	Tension pulley	1
18	610-0316-01	Head-P-roller-M	1
19	610-0313-02	Driving roller	1
20	610-0347-00	Head-P-G-roller	1
21	611-0084-03	Flywheel R	1
22	611-0085-02	Flywheel F	1
23	613-0122-01	Shift-P-gear	1
25	613-0246-00	Gear A	1
26	613-0247-00	Gear B	1
27	613-0248-00	Gear C	1
28	613-0306-00	Play idler gear	2
29	613-0250-00	Change gear A	1

REF.NO.	PART NO.	DESCRIPTION	Q'TY
30	630-2342-04	Adjust link	1
31	630-2345-05	Flywheel plate	1
32	630-2374-01	CH-hold plate	1
33	630-2343-06	Change plate	1
35	630-2408-01	Motor spring	1
36	631-2024-00	Slide bush	2
37	631-0650-00	Adjust base	1
38	631-0637-00	Idler roller	2
39	714-2003-81	Machine screw (M2x3)	1
40	716-1470-00	Machine screw	4
41	716-0717-10	Steel screw	5
42	716-0833-02	Azimuth screw	2
43	716-0835-00	Screw	4
44	716-1523-00	P.W.B-G-screw	2
45	739-2090-17	Precision screw	1
46	746-0624-00	Washer	2
49	746-0724-00	Washer	2
50	746-0857-00	Washer	4
51	746-0768-00	Washer	3
52	746-0767-00	Washer	2
53	750-2715-02	Head-P-spring	1
54	750-3018-00	Mode-P-spring	1
55	750-3033-00	Slide spring	2
56	750-2721-02	Azimuth spring	1
57	750-2725-00	CH-hold spring	1
58	750-2793-01	Idler spring	2
59	960-4337-01	Reel ass'y R	1

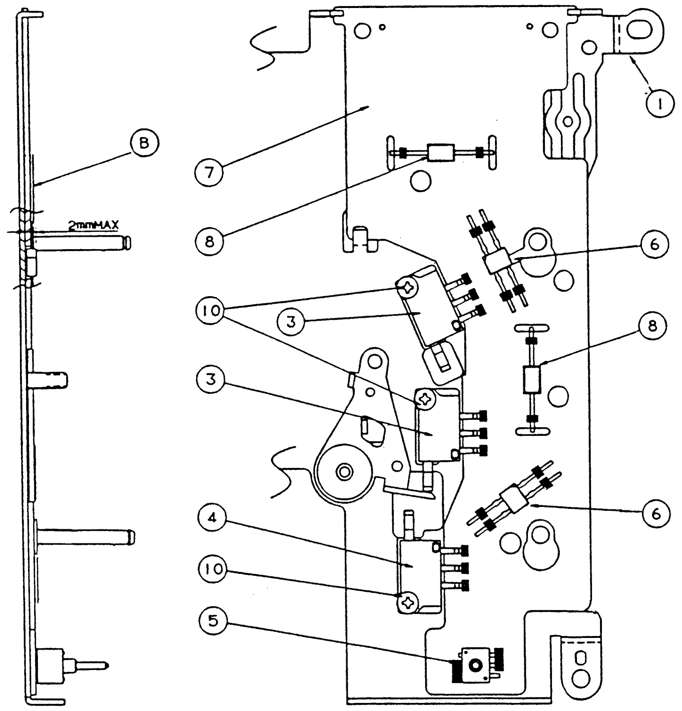
◎EJECT SUB ASS'Y 960-4320-04





REF.NO.	PART NO.	DESCRIPTION	Q'TY
1	960-4007-05	Guide arm ass'y	1
2	960-4008-05	Side frame ass'y	1
3	960-4009-06	Eject-P-ass'y	1
4	960-4010-05	Eject link ass'y	1
5	960-4057-05	Loading-P-ass'y	1
6	606-0090-10	Pack guide	1
7	610-0314-03	Guide-A-roller	1
8	630-2340-01	Swing arm	1
9	631-0599-04	Pack stopper	1
10	746-0816-01	Pack set washer	1
11	750-2716-01	Swing A spring	1
12	750-2719-01	Guide arm spring	1
13	750-2791-01	Load-P-spring	1

◎BOTTOM SUB ASS'Y 960-4346-01



REF.NO.	PART NO.	DESCRIPTION	Q'TY
1	960-4096-04	Bottom-P-ass'y	1
3	013-3863-00	Switch	2
4	013-3863-01	Switch	1
5	013-3937-00	Switch	1
6	051-1114-00	IC (NJL5161K-P)	2
7	099-9394-01	Bottom P.W.B	1
8	111-1021-91	Film resistor (1kΩ)	2
10	716-0834-00	Screw	3

■PARTS LIST: ◎Electrical section

◎MAIN P.W.B

○ : ONLY CRX115R
● : ONLY CRX105R

REF.NO.	PART NO.	DESCRIPTION	Q'TY
D○512 ○609~○612	001-0330-00	Diode 1SS119	5
D502	001-0334-00	Diode DSA17B	1
105,501,601 D○602,605 606,607,613 614,615	001-0356-00	Diode 1SS184	10
D608,617	001-0361-10	Diode 1SS198	2
D590	001-0366-00	Diode LTZMR15	1
D102	001-0367-00	Diode 1SS226	1
D509,616	001-0423-23	Diode MA4082	2
D103,104,505	001-0423-24	Diode MA4091	3
503,504 D506~508 901,902	001-0466-00	Diode S5688B	7
D101	001-0487-03	Diode AA3822K	1
D106,○511 ○513	001-0516-00	Diode MA111	3
D603,604	001-0525-00	Diode IMN10	2
IFT101	005-1022-51	IF-transformer MS3A10	1
IFT102	005-1035-00	IF-transformer	1
L 502,503	009-0470-03	Choke	2
L 501	009-0633-01	Choke	1
L 104,105	010-1892-07	Coil 100μH	2
L 106	010-2174-35	Coil 820μH	1
L 103	010-2174-36	Coil 1mH	1
L 108	010-2199-00	Coil 0.1μH	1
L 101,107	010-2199-16	Coil 2.2μH	2
L 102	010-2199-21	Coil 5.6μH	1
L 201	010-2199-40	Coil 220μH	1
VR501	012-3808-07	Variable resistor 22KΩ VR	1
VR301,401	012-4318-06	Variable resistor 10KΩ VR	2
VR201	012-4318-09	Variable resistor 47KΩ VR	1
VR103	012-4318-13	Variable resistor 470KΩ VR	1
VR101,102	012-4863-07	Variable resistor	2
VR105	012-4863-06	Variable resistor 10KΩ VR	1
VR104	012-4863-09	Variable resistor 47KΩ VR	1
C610	042-0200-00	Tantalum capacitor 10V47μF TAN	1
C157	042-0334-32	Alumi-electrolytic capacitor 16V100μF	1
C155	042-0334-33	Alumi-electrolytic capacitor 25V47μF	1
C501,506	042-0417-00	Alumi-electrolytic capacitor 10V220μF	2
C511	042-0428-00	Alumi-electrolytic capacitor 16V2200μF	1
C153	042-0429-05	Alumi-electrolytic capacitor 25V33μF	1
C508	042-0439-00	Alumi-electrolytic capacitor 10V220μF	1
C512	043-0251-00	Plastic film capacitor 0.1μF	1
C121	043-0261-00	Plastic film capacitor 0.1μF	1
CCT601	050-0077-02	Component circuit 10KΩx4	1
CCT602	050-0088-07	Component circuit (CRX115R)	1
	050-0091-05	Component circuit (CRX105R)	
CCT901	050-0090-62	Component circuit 10KΩx10	1
CCT201	050-0101-01	Component circuit 10KΩx11	1
IC604	051-0142-05	IC TC4013BF	1
IC○603	051-0160-56	IC HD74LS07FPD	1
IC102	051-0267-05	IC TC4066BF	1
IC202,504,506	051-0556-01	IC NJM2058M	3

REF.NO.	PART NO.	DESCRIPTION	Q'TY
IC503	051-0606-01	IC	1
	(051-0606-71)	IC (HIC)	
IC502	051-0619-01	IC LB0354	1
IC205	051-0620-00	IC LA2000C	1
IC○301,○401	051-0853-01	IC M5201FP	2
IC605	051-0869-05	IC MB3771PF	1
IC505	051-0958-01	IC TA8205AH	1
IC203	051-1144-10	IC LA2231M-B	1
IC204	051-1150-10	IC LC7071NM	1
IC○501	051-1157-00	IC DL-BC-01	1
IC●510	051-1038-01	IC CXA1102M	1
IC606	051-1187-01	IC TA78DL05AP	1
IC902	051-1272-00	IC μPC2410HF	1
IC901	051-1301-22	IC μPD75006GB-562-3B4	1
IC103	051-1323-05	IC LC7218M	1
IC602	051-1375-35	IC	1
IC201	051-1380-04	IC μPD75328GC-521-3B9	1
IC601	051-1381-04	IC μPD75116GF-762-3BE	1
IC101	051-1525-00	IC TA8172AF	1
X202	060-0115-02	Ceramic resonator	1
SUP101	060-0122-10	Surge protector	1
X201,601,901	060-0130-01	Ceramic resonator 4.19MHz	3
X203	060-0146-50	Ceramic resonator	1
BPF201	060-0177-00	Band passfilter 57k BPF	1
BPF101	060-0235-00	Band passfilter	1
DC101	060-0236-00	DC-DC-converter 15V	1
X101	060-0240-00	Ceramic resonator	1
X102	061-1066-00	Crystal 7.2MHz	1
Q602,604,618 626,628	100-1150-00	Transistor 2SA1150	5
203,○512 Q620,622,901 902	100-1162-00	Transistor 2SA1162	6
Q108	100-1175-00	Transistor 2SA1175	1
Q109	100-1297-00	Transistor 2SA1297	1
Q611,613	100-1298-00	Transistor 2SA1298	2
Q504,505,903 905	100-1431-00	Transistor 2SA1431	4
Q110,509,625	102-1846-00	Transistor 2SC1846	3
Q107,○616 ○623	102-2712-00	Transistor 2SC2712	3
105,113,114 Q115,511 ○514,904	102-2712-51	Transistor 2SC2712GL	7
Q111,112	102-3624-00	Transistor 2SC3624	2
Q617	102-3732-00	Transistor 2SC3732	1
Q508	103-1225-00	Transistor 2SD1225	1
104 Q301~304 401~404 501	103-1306-00	Transistor 2SD1306	10
Q106	108-0372-28	FET 2SK372	1
Q201,503,601	125-0002-03	Transistor RN2403	3
101,102,116 202,502,506 507,510 Q○513,603 605,612,614 ○615,619 621,624,627 629	125-2004-03	Transistor RN1403	19

REF.NO.	PART NO.	DESCRIPTION	Q'TY
Q606~610 906	125-2004-06	Transistor RN1406	6
C318,418	171-2222-06	Ceramic capacitor 2200PF	2
C162	172-6831-11	Polyester capacitor 0.068μF	1
C320,321,420 421	173-1542-10	Polyester capacitor 0.15μF	4
C170~172	176-1012-00	Ceramic chip capacitor 100PF	3
C167~169	176-1802-00	Ceramic chip capacitor 18PF CH	3
C129	176-2201-02	Ceramic chip capacitor 22PF RH	1
C113	177-1042-05	Ceramic chip capacitor 0.1μF	1
C164,229,230	177-3332-05	Ceramic chip capacitor 0.033μF	3
C115	177-3932-05	Ceramic chip capacitor 0.039μF	1
C 107,119,127 128,135,136 154,156,158 166	177-4732-05	Ceramic chip capacitor 0.047μF	10
C105,150	177-6832-05	Ceramic chip capacitor 0.068μF	2
C 124,149,152 202,208,219 ○302,○304 ○402,○404 490~493 606	178-1022-05	Ceramic chip capacitor 1000PF	15
C 104,106,109 111,122,123 133,141,163 173,209,210 212~215 221,601,604 607,609,611 903,907,909	178-1032-05	Ceramic chip capacitor 0.01μF	25
C138	178-2222-05	Ceramic chip capacitor 2200PF	1
C101,133,140 228	178-2232-05	Ceramic chip capacitor 0.022μF	4
C125,126	178-2722-05	Ceramic chip capacitor 2700PF	2
C144	178-3312-05	Ceramic chip capacitor 330PF	1
C218,220	178-3322-05	Ceramic chip capacitor 3300PF	2
C118,●304 ●404	178-4712-05	Ceramic chip capacitor 470PF	3
C103,145	178-4722-05	Ceramic chip capacitor 4700PF	2
C231	178-6822-05	Ceramic chip capacitor 6800PF	1
C 159,161 ●307,516 603	182-1073-22	Electrolytic capacitor 10V100μF	5
C518,906	182-1073-32	Electrolytic capacitor 16V100μF	2
C317,417	182-2256-52	Electrolytic capacitor 35V2.2μF NP	2
C328,428	182-4756-32	Electrolytic capacitor 16V4.7μF NP	2
C201	183-1043-62	Electrolytic capacitor 50V0.1μF	1
C 114,120,142 143,148,203 204,206,326 327,426,427 509,908	183-1053-62	Electrolytic capacitor 50V1μF	14
C 110,112,116 117,132,134 137,160,205 211,222,306 309,312,406 409,412 ○502,505 ●510,514 591,602,605 902,904,910	183-1063-32	Electrolytic capacitor 16V10μF	27
C216	183-1073-12	Electrolytic capacitor 6.3V100μF	1
C310,410	183-2243-62	Electrolytic capacitor 50V0.22μF	2
C130	183-2253-62	Electrolytic capacitor 50V2.2μF	1
C507	183-2263-12	Electrolytic capacitor 6.3V22μF	1
C217,224,319 419,612	183-2263-32	Electrolytic capacitor 16V22μF	5
C207	183-3363-22	Electrolytic capacitor 10V33μF	1
C905	183-3363-42	Electrolytic capacitor 25V33μF	1
C 165,223 ○301,○303 305,308,311 313~315 ○316,322 323,○401 ○403,405 408,411 413~415 ○416,422 423,590	183-4753-52	Electrolytic capacitor 35V4.7μF	25
C147,174,225 226,227,510	183-4763-12	Electrolytic capacitor 6.3V47μF	6
C 102,108,324 325,424,425 503,504	183-4763-32	Electrolytic capacitor 16V47μF	8
C●340,●440	183-6843-62	Electrolytic capacitor 50V0.68μF	2
C○307,○407 515	184-2273-21	Electrolytic capacitor 10V220μF	3
C513	184-4773-32	Electrolytic capacitor 16V470μF	1

◎ESCUTCHEON P.W.B

REF.NO.	PART NO.	DESCRIPTION	Q'TY
D711	001-0459-01	Diode GL9HD44	1
IC701	051-1151-00	IC μPD7225G	1
C701,702	178-1032-05	Ceramic chip capacitor 0.01μF	2

■TAPE MECHANISM ELECTRICAL SECTION:

◎PRE-P.W.B

REF.NO.	PART NO.	DESCRIPTION	Q'TY
IC2	051-0620-00	IC LA2000	1
IC1	051-0714-01	IC TA7705F	1
Q1	102-3402-00	Transistor 2SC3402	1
C15	172-3332-20	Polyester capacitor 0.033μF	1
C6,9	173-1231-10	Polyester capacitor 0.012μF	2
C12	173-4721-10	Polyester capacitor 4700pF	1
C1~4	173-5611-10	Polyester capacitor 560pF	4

REF.NO.	PART NO.	DESCRIPTION	Q'TY
C14	183-1053-62	Electrolytic capacitor 50V1μF	1
C7	183-1063-32	Electrolytic capacitor 16V10μF	1
C13	183-4743-62	Electrolytic capacitor 50V0.47μF	1
C10,11	183-4753-52	Electrolytic capacitor 35V4.7μF	2
C5,8	183-4763-12	Electrolytic capacitor 6.3V47μF	2
C16	183-4763-32	Electrolytic capacitor 16V47μF	1

◎BOTTOM-P.W.B

REF.NO.	PART NO.	DESCRIPTION	Q'TY
SW4	013-3862-00	Switch	1
SW1,2	013-3863-00	Switch	2

REF.NO.	PART NO.	DESCRIPTION	Q'TY
SW3	013-3863-01	Switch	1
IC3,4	051-1114-00	IC NJL5161K	2

● How to read resistor

Resistors are deleted from the table of electric components, (except special resistors). They can be converted to product Nos. as follows.

Film resistor (Carbon film resistor/Metal film resistor)

□□□-□□□□-□□

Classification	Resistance *	Tolerance of the value of resistance		Rated power			Shape	
111 (Carbon film resistor)		0	±2%	0			0	
	Example	1	±5%	1	⅛W	Approx. 3.7mm	1	Horizontal
	33Ω=330	2		2	¼Ws	Approx. 6.5mm	2	Vertical
	33kΩ=333	3		3			3	
		4		4	½W	Approx. 9mm	4	
				7	⅙W	Approx. 3.5mm		
				8	½Ws	Approx. 6.6mm		
				9	¼Wss	Approx. 3.2mm		
114 (Metal film resistor)		0		1	1W	Approx. 9.0mm	0	
		1	±5%	2	2W	Approx. 11.0mm	1	Horizontal
		2		3	3W	Approx. 15.0mm	2	

(Example)

Carbon film resistor 1kΩ ±5% ¼Wss Vertical

1 1 1 - 1 0 2 1 - 9 2

Note 1. The first two of three digits representing resistance are effective digits and the last one represents number of "0" following this. Unit is given in ohm (Ω).

Chip resistor

□□□-□□□□-□ 0

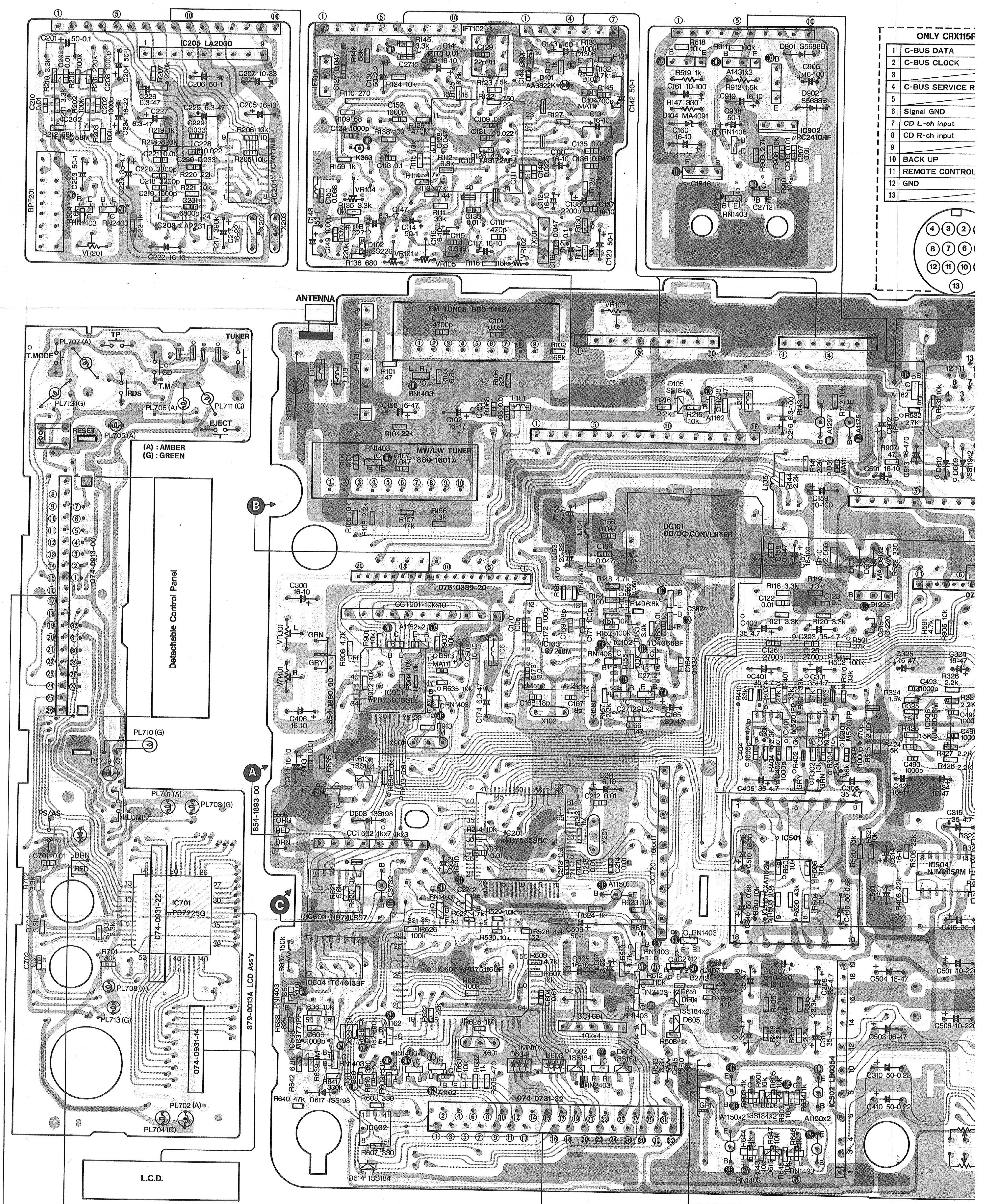
Classification	Resistance *	Tolerance of the value of resistance		Rated power		
116	Example	0	for 0Ω resistor	0	for 0Ω resistor	
	33Ω=330	1	±5%	1	⅛W	1.6 mm 3.2mm
	33kΩ=333	2	±10%	2		
117		0	for 0Ω resistor	0	for 0Ω resistor	
		1	±5%	1	1/10W	1.25 mm 2.0mm
		2	±10%	2		
118		0		0		
		1	±5%	1	½W	3.2 mm 4.5mm
		2	±10%	2		
119		0	for 0Ω resistor	0	for 0Ω resistor	
		1	±5%	1	1/16W	0.8 mm 1.6mm
		2	±10%	2		

(Example)

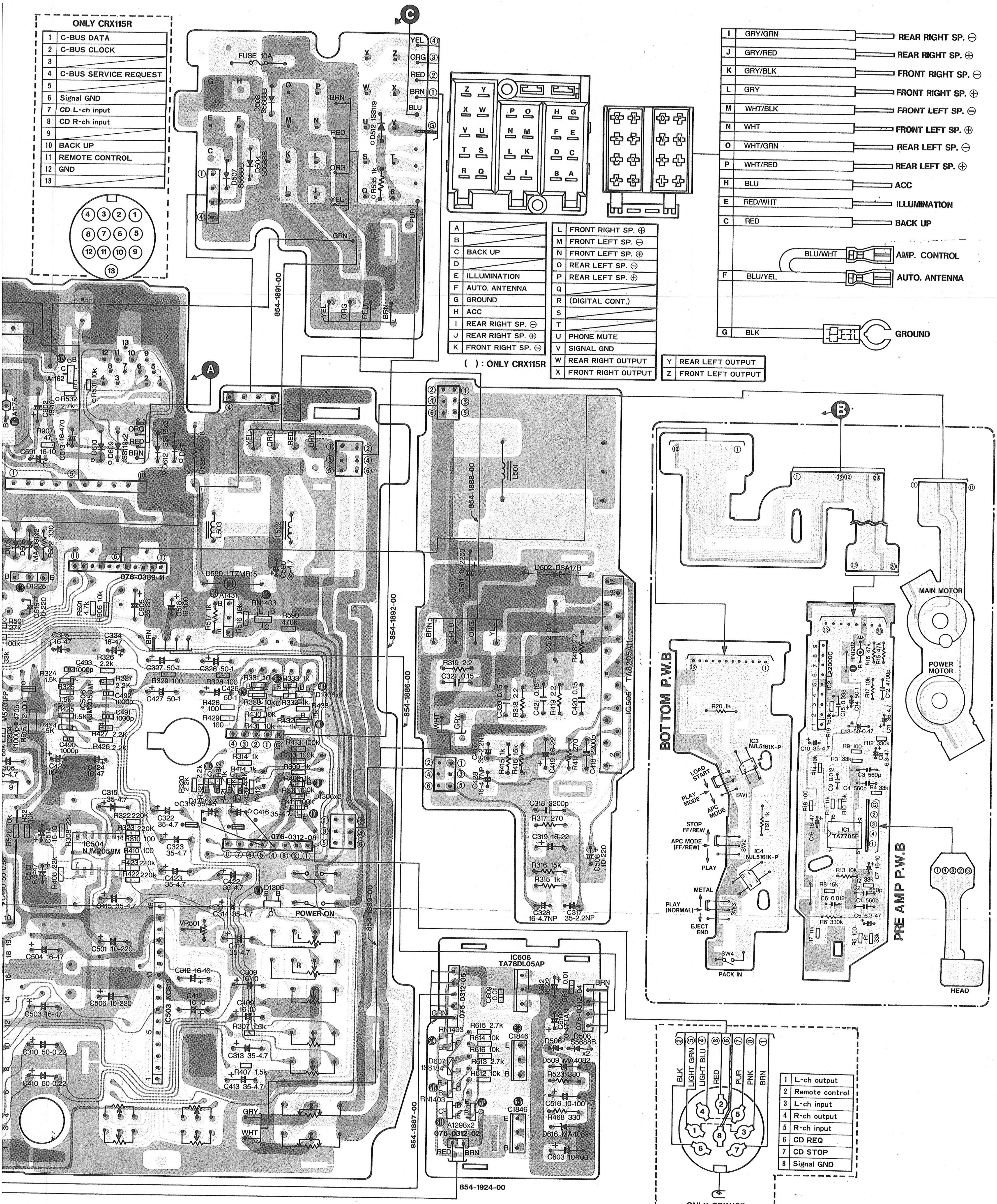
Chip resistor (3.2mm×1.6mm) 1kΩ ±5% ⅛W

1 1 6 - 1 0 2 1 - 1 0

PRINTED WIRING BOARD:


IC205 LA2000
IC204 LC7071NM
IC203 LA2231
IC202 NJM2058M
BPF201
VR201
X202
X203
IFT101
IFT102
IC101 TA8172AF
VR101
VR102
VR103
VR104
VR105
X101
IC902 µPC2410HF
ANTENNA
FM TUNER 880-1418A
MW/LW TUNER 880-1601A
BPF101
SUP101
DC101 DC/DC CONVERTER
076-0389-20
CCT901 10kx10
IC901 µPD75006GF
X901
IC102 TC4066BF
IC103 LC7218M
X102
854-1890-00
854-1893-00
CCT602 1kx7 1kx3
IC201 µPD75328GC
X201
CCT201 10kx11
IC501
IC502 LB0354
IC503
IC504 NJM2058M
IC506 NJM2058M
IC601 µPD75116GF
IC602
IC603 HD74LS07
IC604 TC4013BF
CCT601 10kx4
X601
074-0731-32
T.MODE
TP
TUNER
CD
T.M
RDS
RESET
EJECT
(A) : AMBER
(G) : GREEN
074-0913-00
Detachable Control Panel
PS/AS
ILLUMI
IC701 µPD7225G
074-0931-22
074-0931-14
379-0013A LCD Ass'y
L.C.D.
A
B
C
GRN
GRY
ORG
RED
BRN

	ONLY CRX115R
1	C-BUS DATA
2	C-BUS CLOCK
3	
4	C-BUS SERVICE R
5	
6	Signal GND
7	CD L-ch input
8	CD R-ch input
9	
10	BACK UP
11	REMOTE CONTROL
12	GND
13	


C
A
B
FUSE 10A
BOTTOM P.W.B
PRE AMP P.W.B
MAIN MOTOR
POWER MOTOR
HEAD
PACK IN
LOAD START
PLAY MODE
APC MODE
STOP FF/REW
APC MODE (FF/REW)
PLAY
METAL
PLAY (NORMAL)
EJECT END
POWER ON
IC505 TA8205AH
IC606 TA78DL05AP
IC503 KC819
IC504 NJM2058M
IC506 NJM2058M
IC1 TA7705F
IC2 LA2000C
IC3 NJL5161K-P
IC4 NJL5161K-P
854-1891-00
854-1888-00
854-1892-00
854-1886-00
854-1889-00
854-1887-00
854-1924-00
076-0389-11
076-0312-08
076-0312-05
076-0312-04
076-0312-02
D590 LTZMR15
D502 DSA17B
VR501
L501
L502
L503
YEL
ORG
RED
BRN
BLU
GRN
PUR
WHT
GRY
BLU/WHT
BLU/YEL
BLK

ONLY CRX115R

1	C-BUS DATA
2	C-BUS CLOCK
3	
4	C-BUS SERVICE REQUEST
5	
6	Signal GND
7	CD L-ch input
8	CD R-ch input
9	
10	BACK UP
11	REMOTE CONTROL
12	GND
13	

A	
B	
C	BACK UP
D	
E	ILLUMINATION
F	AUTO. ANTENNA
G	GROUND
H	ACC
I	REAR RIGHT SP. ⊖
J	REAR RIGHT SP. ⊕
K	FRONT RIGHT SP. ⊖

L	FRONT RIGHT SP. ⊕
M	FRONT LEFT SP. ⊖
N	FRONT LEFT SP. ⊕
O	REAR LEFT SP. ⊖
P	REAR LEFT SP. ⊕
Q	
R	(DIGITAL CONT.)
S	
T	
U	PHONE MUTE
V	SIGNAL GND
W	REAR RIGHT OUTPUT
X	FRONT RIGHT OUTPUT

Y	REAR LEFT OUTPUT
Z	FRONT LEFT OUTPUT

( ) : ONLY CRX115R

I	GRY/GRN	REAR RIGHT SP. ⊖
J	GRY/RED	REAR RIGHT SP. ⊕
K	GRY/BLK	FRONT RIGHT SP. ⊖
L	GRY	FRONT RIGHT SP. ⊕
M	WHT/BLK	FRONT LEFT SP. ⊖
N	WHT	FRONT LEFT SP. ⊕
O	WHT/GRN	REAR LEFT SP. ⊖
P	WHT/RED	REAR LEFT SP. ⊕
H	BLU	ACC
E	RED/WHT	ILLUMINATION
C	RED	BACK UP
	BLU/WHT	AMP. CONTROL
F	BLU/YEL	AUTO. ANTENNA
G	BLK	GROUND

1	L-ch output
2	Remote control
3	L-ch input
4	R-ch output
5	R-ch input
6	CD REQ
7	CD STOP
8	Signal GND

ONLY CRX115R

○ : USE ONLY CRX115R
● : USE ONLY CRX105R

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